

=> FIL REG
FILE 'REGISTRY' ENTERED AT 13:04:36 ON 11 DEC 2009
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=> D HIS

FILE 'HCAPLUS' ENTERED AT 08:47:59 ON 11 DEC 2009
E US2006-586631/APPS

L1 1 S E3
E SUZUKI H/AU

L2 1699 S E3
E SUZUKI HIRONORI/AU

L3 246 S E3
E HIRONORI NAME/AU
E HIRONORI SUZUKI/AU
E FUJISAWA K/AU

L4 78 S E3
E FUJISAWA KAZUHISA/AU

L5 70 S E3
E KAZUHISA NAME/AU

L6 1 S E4
E KAZUHISA FUJISAWA/AU
E FUJIURA T/AU

L7 36 S E3 OR E7
E TAKAYASU NAME/AU
E TAKAYASU FUJIURA/AU
E HORIE K/AU

L8 143 S E3
E HORIE KIYOSHI/AU

L9 79 S E3
E KIYOSHI NAME/AU

L10 2 S E4
E KIYOSHI HORIE/AU
E KOJIMA M/AU

L11 343 S E3
E KOJIMA MASAKI/AU

L12 93 S E3
E MASAKI NAME/AU

L13 5 S E4
E MASAKI KOJIMA/AU
E YOSHIHARA T/AU

L14 65 S E3
E YOSHIHARA TAKESHI/AU

L15 10 S E3
E TAKESHI NAME/AU

L16 5 S E4
E TAKESHI YOSHIHARA/AU

L17 2848 S L2-L16
E KABUSHIKI KAISHA KOBE SEIKO SHO/CO

L18 19041 S E3+ALL

L19 19041 S L18
E NIPPON FINE CHEMICAL CO LTD/CO
E E3+ALL

L20 132 S E2-E4/CO,CS,PA

L21 19172 S L19-L20

L22 516 S (L17 OR L21) AND LUBRIC?

L23 88 S L22 AND POWDER?

L24 1 S L23 AND POLYHYDROXYCARB?
 L25 1 S L24 OR L1
 L26 17 S L23 AND SINTER?
 L27 1 S L26 AND POLYAMID?
 L28 475675 S ((LUBRIC# OR LUBE# OR GREAS? OR ANTIFRIC? OR ANTIWEAR? OR
 L29 452245 S ((FATTY# OR LONGCHAIN? OR LONG#(W)CHAIN# OR ALIPHATIC?
 L30 87596 S ((CAPROLEIC# OR UNDECANOIC# OR DODEC!NOIC# OR LAURIC# OR
 L31 154840 S ((MARGARIC# OR DATURIC# OR OCTADEC!NOIC# OR STEARIC# OR O
 L32 12656 S ((ERUCIC# OR TRICOS!NOIC# OR TETRACOS!NOIC# OR LIGNOCERIC
 L33 59909 S ((MELISSIC# OR DOTRIACANTANOIC# OR LACCEROIC# OR TRITRIAC
 L34 68116 S ((LINOLENIC# OR ARACHIDONIC# OR ELAIDIC# OR RICINOLEIC#)(
 L35 591130 S L29-L34
 L36 17309 S ?HYDROXYCARBOXAMIDE? OR ?HYDROXY? (2A) ?CARBOX? (2A) ?AMI
 L37 QUE ?AMIDE?
 L38 29836 S POWDER? (2A) METALLURG?
 L39 268010 S SINTER?
 L40 QUE VISCOS? OR FLUID?
 L41 1764 S L28 AND L38
 L42 4 S L41 AND L36
 L43 150 S L41 AND L35
 L44 68 S L43 AND L37
 L45 39 S L44 AND L39
 L46 7 S L44 AND L40
 L47 71 S L42 OR L44 OR L45 OR L46
 L48 3 S L47 AND (L17 OR L21)
 L49 68 S L47 NOT L48
 L50 59 S 1808-2004/PY,PRY,AY AND L49
 L51 TRA L50 1- RN : 314 TERMS

FILE 'REGISTRY' ENTERED AT 10:09:11 ON 11 DEC 2009

L52 314 SEA L51
 L53 22 S L52 AND ?AMIDE?/CNS

FILE 'HCAPLUS' ENTERED AT 10:10:47 ON 11 DEC 2009

L54 79313 S L53
 L55 48 S L50 AND L54
 L56 59 S L55 OR L50
 L57 6434 S L53/D
 L58 240 S L57 (L) ?HYDROX?
 L59 0 S L58 AND L56
 L60 0 S L58 AND L38
 L61 9 S L56 AND ?HYDROX?
 L62 9 S L44 AND ?HYDROX?
 L63 9 S 1808-2004/PY,PRY,AY AND L62
 L64 59 S L63 OR L56
 L65 9 S L64 AND ?HYDROX?
 L66 50 S L64 NOT L65

FILE 'WPIX' ENTERED AT 10:22:39 ON 11 DEC 2009

L67 362589 S L28
 L68 6788 S L38
 L69 14684 S L36
 L70 3 S L67 AND L68 AND L69
 L71 986 S L67 AND L69

FILE 'WPIX' ENTERED AT 10:30:30 ON 11 DEC 2009

L72 603 S (C10M0105 AND C10M0129 AND C10M0133)/IPC
 L73 13 S L71 AND L72
 L74 13 S L72 AND L69
 L75 13 S L73 OR L74

FILE 'LREGISTRY' ENTERED AT 10:38:42 ON 11 DEC 2009
L76 STR

FILE 'REGISTRY' ENTERED AT 10:42:02 ON 11 DEC 2009
L77 SCR 1701 OR 1702 OR 1703 OR 1704 OR 1705
L78 50 S L76 AND L77

FILE 'LREGISTRY' ENTERED AT 10:45:27 ON 11 DEC 2009
L79 STR L76

FILE 'REGISTRY' ENTERED AT 10:50:50 ON 11 DEC 2009
L80 22 S L79 AND L77

FILE 'LREGISTRY' ENTERED AT 11:06:18 ON 11 DEC 2009
L81 STR L79

FILE 'REGISTRY' ENTERED AT 11:07:17 ON 11 DEC 2009

FILE 'LREGISTRY' ENTERED AT 11:07:50 ON 11 DEC 2009
L82 STR L81

FILE 'REGISTRY' ENTERED AT 11:08:07 ON 11 DEC 2009
L83 1 S L82
L84 7 S L82 AND L77
L85 SCR 1705
L86 1 S L82 AND L85

FILE 'LREGISTRY' ENTERED AT 11:12:41 ON 11 DEC 2009
L87 STR L82

FILE 'REGISTRY' ENTERED AT 11:14:54 ON 11 DEC 2009
L88 0 S L87 AND L77

FILE 'LREGISTRY' ENTERED AT 11:15:39 ON 11 DEC 2009
L89 STR L87

FILE 'REGISTRY' ENTERED AT 11:19:00 ON 11 DEC 2009
L90 7 S L89 AND L77
L91 7 S L82 AND L77
E ALDONIC ACID AMIDE/CN
E ALDONIC ACID/CN

FILE 'LREGISTRY' ENTERED AT 11:34:40 ON 11 DEC 2009
L92 STR L82

FILE 'REGISTRY' ENTERED AT 11:38:40 ON 11 DEC 2009
L93 1 S L92

FILE 'LREGISTRY' ENTERED AT 12:34:22 ON 11 DEC 2009
L94 STR
L95 0 S L94

FILE 'REGISTRY' ENTERED AT 12:38:47 ON 11 DEC 2009
L96 0 S L94
L97 SCR 1267 AND 1701
L98 SCR 1838
L99 9 S L94 AND L97 NOT L98
L100 SCR 1268 OR 1312
L101 12 S L94 AND L97 NOT (L98 OR L100)

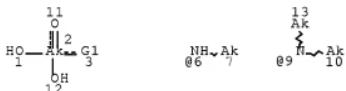
L102 12 S L94 AND L97 NOT (L98 OR L100)
 L103 183 S L94 AND L97 NOT (L98 OR L100) FUL

FILE 'HCAPLUS' ENTERED AT 12:49:34 ON 11 DEC 2009
 L104 160 S L103
 L105 3 S L104 AND L28
 L106 0 S L104 AND L38
 L107 7 S L104 AND POWDER?
 L108 10 S L105 OR L107
 L109 9 S 1808-2004/PY,PRY,AY AND L108

FILE 'WPIX' ENTERED AT 13:02:01 ON 11 DEC 2009
 L110 15 S L70 OR L75
 L111 11 S 1808-2004/PY,PRY,AY AND L110

FILE 'REGISTRY' ENTERED AT 13:04:36 ON 11 DEC 2009

=> D L103 QUE STAT
 L94 STR



VAR G1=6/9
 NODE ATTRIBUTES:
 CONNECT IS E1 RC AT 7
 CONNECT IS E1 RC AT 10
 CONNECT IS E1 RC AT 13
 DEFAULT MLEVEL IS ATOM
 GGCAT IS SAT AT 2
 GGCAT IS SAT AT 7
 GGCAT IS SAT AT 10
 GGCAT IS SAT AT 13
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M6 C AT 7
 ECOUNT IS M6 C AT 10
 ECOUNT IS M6 C AT 13

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE
 L97 SCR 1267 AND 1701
 L98 SCR 1838
 L100 SCR 1268 OR 1312
 L103 183 SEA FILE=REGISTRY SSS FUL L94 AND L97 NOT (L98 OR L100)

100.0% PROCESSED 7820 ITERATIONS
 SEARCH TIME: 00.00.01

183 ANSWERS

=> FIL HCAP
FILE 'HCAPLUS' ENTERED AT 13:04:51 ON 11 DEC 2009
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=> D L48 1-3 IBIB ABS HITSTR HITIND RETABLE

L48 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:673376 HCAPLUS Full-text
DOCUMENT NUMBER: 143:156094
TITLE: Lubricant for powder
metallurgy, powdery mixture for
powder metallurgy, and process
for producing sinter
INVENTOR(S): Suzuki, Hironori; Fujisawa,
Kazuhisa; Fujiura, Takayasu;
Horie, Kiyoishi; Kojima, Masaki;
Yoshihara, Takeshi
PATENT ASSIGNEE(S): Kabushiki Kaisha Kobe Seiko Sho, Japan;
Nippon Fine Chemical Co., Ltd.
SOURCE: PCT Int. Appl., 48 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005068588	A1	20050728	WO 2005-JP945	20050119
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1910266	A	20070207	CN 2005-80002769	20050119
JP 4300217	B2	20090722	JP 2005-517152	20050119
KR 2006121254	A	20061128	KR 2006-713060	20060629
US 20070154340	A1	20070705	US 2006-586631	20060719
PRIORITY APPLN. INFO.:		JP 2004-11475	A	20040120
		WO 2005-JP945	W	20050119

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The lubricant for powder metallurgy contains a polyhydroxycarboxamide having a formula of R1CONR2R3, where R1 is C2-10 alkyl with ≥2 hydroxy groups, R2 is C8-30 hydrocarbon group, and R3 is H or C1-30 hydrocarbon group. The lubricant improves fluidity and lubricity in any pretreatment processes for sintering.

IC ICM C10M0105-68
ICS C10M0105-00; B22F0003-02; C10M0105-24; C10N0010-04; C10N0020-06;
C10N0030-02; C10N0030-06; C10N0040-20; C10N0050-08

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 ST lubricant powder metallurgy
 powdery mixt process producing sinter
 IT Lubricants
 Lubrication
 Powder metallurgy
 Sintering
 Viscosity
 (lubricant for powder metallurgy,
 powdery mixture for powder metallurgy,
 and process for producing sinter)
 IT Polyanides, processes
 (lubricant for powder metallurgy,
 powdery mixture for powder metallurgy,
 and process for producing sinter)

RETABLE

Referenced Author (RAU)	Year (RPG)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Hoganas Ab	1994	1	1	JP 06-506726 A	
Hoganas Ab	1998	1	1	JP 10-501270 A	
Kawasaki Steel Corp	1994	1	1	JP 06-145701 A	HCAPLUS
Kawasaki Steel Corp	1998	1	1	JP 10-280005 A	HCAPLUS
Kawasaki Steel Corp	2001	1	1	JP 2001342478 A	HCAPLUS

L48 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:340626 HCAPLUS Full-text

DOCUMENT NUMBER: 142:394817

TITLE: Lubricant and mixed powder for
powder metallurgy

INVENTOR(S): Suzuki, Hironori; Fujisawa,
Kazuhisa; Okumura, Yoshikazu; Kimura,
Kimikazu

PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005105323	A	20050421	JP 2003-338526	20030929
PRIORITY APPLN. INFO.:			JP 2003-338526	20030929

AB The lubricant consists of a low m.p. lubricant core selected from ≥ 1 of fatty acids, fatty acid amides, composite waxes, metal soaps, or ethylenebis stearoamide, and 0.01-50 weight% of a surface coating material selected from ≥ 1 of polyvinyl alc., gelatins, Arabian gums, sodium alginate, polyurethane, polymethyl methacrylate, urea resin, melamine resin, metal soaps, fatty acid amides, Me cellulose, Et cellulose, carboxyl cellulose, nylon, polyester, epoxy resins, or polyamido-ester. The product has excellent fluidity and lubricity.

IC ICM B22F0003-02

ICS C10M0103-00; C10M0103-06; C10M0105-24; C10M0105-68; C10M0107-24;
 C10M0107-28; C10M0107-32; C10M0107-36; C10M0107-44; C10M0109-00;
 C10M0111-02; C10M0129-74; C10M0143-10; C10M0143-12; C10M0145-14;
 C10M0145-20; C10N0010-02; C10N0010-04; C10N0010-06

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

Section cross-reference(s): 56

ST lubricant core coating material powder metallurgy

IT Amides, uses
(fatty; lubricant and mixed powder for powder metallurgy)

IT Coating materials
Lubricants
Lubrication
Powder metallurgy
Viscosity
(lubricant and mixed powder for powder metallurgy)

IT Aminoplasts
Epoxy resins, uses
Fatty acids, uses

Gelatins, uses
Polyamides, uses

Polyesters, uses

Polyurethanes, uses

Soaps

Waxes
(lubricant and mixed powder for powder metallurgy)

IT 110-30-5 9002-89-5, Polyvinyl alcohol 9003-08-1, Melamine resin 9004-57-3, Ethyl cellulose 9004-67-5, Methyl cellulose 9005-38-3, Sodium alginate 9011-05-6, Urea resin 9011-14-7, Polymethyl methacrylate 9032-53-5, Carboxyl cellulose
(lubricant and mixed powder for powder metallurgy)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L48 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1999:534067 HCAPLUS Full-text
DOCUMENT NUMBER: 131:203213
TITLE: Composite lubricant for powder metallurgy
INVENTOR(S): Akagi, Nobuaki; Seki, Yoshikazu; Fujisawa, Kazuhisa
PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 11229002	A	19990824	JP 1998-37682	19980219
JP 4018223	B2	20071205		

PRIORITY APPLN. INFO.: JP 1998-37682 19980219

AB A composite lubricant for powder metallurgy comprises a powdered higher fatty acid salt and a wax lubricant serving as a binder removal enhancer. The lubricant improves dimensional stability during sintering.

IC ICM B22F0003-02
ICS C10M0105-24; C10M0127-00; C10N0040-20
CC 56-4 (Nonferrous Metals and Alloys)

Section cross-reference(s): 51
 ST composite lubricant fatty acid salt wax
 powder metallurgy sintering
 IT Amides, uses
 (bisamides; in composite lubricant for
 powder metallurgy)
 IT Lubricants
 Powder metallurgy
 (composite lubricant for powder
 metallurgy)
 IT Amides, uses
 Carboxylic acids, uses
 Waxes
 (in composite lubricant for powder
 metallurgy)
 IT Fatty acids, uses
 (long-chain, salts; in composite
 lubricant for powder metallurgy)
 IT 557-04-0, Magnesium stearate 557-05-1, Zinc stearate 1592-23-0,
 Calcium stearate 4485-12-5, Lithium stearate 7428-48-0, Lead
 stearate 13586-84-0, Cobalt stearate 14448-69-2, Nickel stearate
 (in composite lubricant for powder
 metallurgy)

=> D L65 1-9 IBIB ABS HITSTR HITIND RETABLE

L65 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 20051198575 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:464029
 TITLE: Powder metallurgy process
 using microwave for thermal debinding
 INVENTOR(S): Wang, Jenn-Shing; Lin, Wen-Hao; Chen, Chih-Cheng
 PATENT ASSIGNEE(S): Taiwan
 SOURCE: U.S. Pat. Appl. Publ., 10 pp.
 CODEN: USXKCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050249627	A1	20051110	US 2003-636645 <--	20030808
PRIORITY APPLN. INFO.:			US 2003-636645 <--	20030808

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A manufacturing process using microwave for thermal debinding according to the invention is mainly applied in the manufacture of powder metallurgy. Wherein, metal powder is mixed with polymer materials such as adhesives, fillers, or lubricants, and a green body is formed by molding, forging, extrusion, injection, or scraping. The green body to be debinded is placed in a microwave environment in an exposed manner or covered with ZrO₂ or Al₂O₃ powder, and power and work time of microwave are set for rapidly heating and debinding the body. This manufacturing process is capable of accelerating manufacturing procedure, economizing production cost, reducing defects, quickly drying and rapidly removing polymer materials. The metal powder is made of a pure metal from or an alloy of iron, titanium, copper, magnesium, nickel, chromium, and manganese. The polymer materials are any from acrylic,

Et cellulose, hydroxypropyl cellulose, polypropylene cellulose, polypropylene, polyacetal polymer, ethylenevinyl acetate, atactic polypropylene, stereobutadiene copolymer, Me cellulose, polyethylene, oxidized polyethylene, cellulose acetate, nylon, polystyrene, polybutylene, polysulfone, paraffin wax, mineral oil, vegetable oil, fatty acid, fatty alc., fatty ester, hydrocarbon wax, epoxy, polyphenylene, phenol, stearic acid, ester wax, oleic acid, di-Et phthalate, and formaldehyde.

IC ICM B22F0003-10

INCL 419030000

CC 56-4 (Nonferrous Metals and Alloys)

ST iron titanium copper powder metallurgy microwave zirconia alumina

IT Epoxy resins, uses

 Fatty acids, uses

 Paraffin waxes, uses

 Petroleum, uses

 Polyamides, uses

 Polysulfones, uses

 (binder; powder metallurgy process using microwave for thermal debinding)

IT Fatty acids, uses

 (esters, binder; powder metallurgy process using microwave for thermal debinding)

IT Alcohols, uses

 (fatty, binder; powder metallurgy process using microwave for thermal debinding)

IT Microwave

 Powder metallurgy

 (powder metallurgy process using microwave for thermal debinding)

IT Fats and Glyceridic oils, uses

 (vegetable, binder; powder metallurgy process using microwave for thermal debinding)

IT 50-00-0, Formaldehyde, uses 57-11-4, Stearic acid, uses 84-66-2, Diethyl phthalate 108-95-2, Phenol, uses 112-80-1, Oleic acid, uses 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-29-6, Polybutylene 9003-53-6, Polystyrene 9003-55-8, Styrene-butadiene copolymer 9004-35-7 9004-57-3, Ethyl cellulose 9004-64-2, Hydroxypropyl cellulose 9004-67-5, Methyl cellulose 9033-83-4, Poly(phenylene)

 (binder; powder metallurgy process using microwave for thermal debinding)

IT 1314-23-4, Zirconium oxide (ZrO₂), processes 1344-28-1, Alumina, processes 7631-86-9, Silica, processes

 (cover powder bed; powder metallurgy process using microwave for thermal debinding)

IT 7439-89-6, Iron, processes 7439-95-4, Magnesium, processes 7439-96-5, Manganese, processes 7440-02-0, Nickel, processes 7440-32-6, Titanium, processes 7440-47-3, Chromium, processes 7440-50-8, Copper, processes

 (powder metallurgy process using microwave for thermal debinding)

L65 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:20037 HCAPLUS Full-text

DOCUMENT NUMBER: 140:80297

TITLE: Iron-based powder mixtures containing lubricative powder for powder metallurgy

INVENTOR(S): Uenosono, Satoshi; Ozaki, Yukiko; Unami, Shigeru
 PATENT ASSIGNEE(S): JFE Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004002964	A	20040108	JP 2003-13098 <--	20030122
PRIORITY APPLN. INFO.:			JP 2002-98702 <--	A 20020401

AB The powder mixture comprises Fe based powder and 0.1-1.20 weight% spherical free-standing lubricant powder containing 0.02-5.0 weight% antistatic agents. The mixture may also contain alloying powder and/or powders for improving machinability. Also claimed is the powder mixture comprising Fe-based powder having coatings of the alloying powder and/or machinability-improving powders bonded with binders. The mixts. show excellent flowability and mold filling properties and are suitable for use in powder metallurgy processes.
 IT 110-30-5, Ethylene bis(stearic acid amide) 124-26-5, Stearic acid amide 301-02-0, Oleic acid amide (lubricant; Fe-based powder mixts. containing antistatic lubricative powder for excellent flowability and filling properties in powder metallurgy)
 RN 110-30-5 HCAPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS
 CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS
 CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0001-00
ICS B22F0003-02
CC 55-4 (Ferrous Metals and Alloys)
Section cross-reference(s): 51
ST powder metallurgy iron base powder
lubricant mixt; antistatic additive iron base powder;
lubricant additive iron powder metallurgy
IT Antistatic agents
 Powder metallurgy
 (Fe-based powder mixts. containing antistatic
 lubricative powder for excellent flowability and filling
 properties in powder metallurgy)
IT Amides, uses
 (N,N-bis(hydroxyethyl), undecyl, antistatic agents;
 Fe-based powder mixts. containing antistatic lubricative
 powder for excellent flowability and filling properties in
 powder metallurgy)
IT Polyoxalkylenes, uses
 (alkyl ethers, fatty acid esters, antistatic
 agent; Fe-based powder mixts. containing antistatic lubricative
 powder for excellent flowability and filling properties in
 powder metallurgy)
IT Fatty acids, uses
 (esters, antistatic agent; Fe-based powder mixts. containing antistatic
 lubricative powder for excellent flowability and filling
 properties in powder metallurgy)
IT Machining
 (powder additives for improvement of; Fe-based powder mixts. containing
 antistatic lubricative powder for excellent flowability
 and filling properties in powder metallurgy)
IT Lubricants
 (solid, powder; Fe-based powder mixts. containing antistatic
 lubricative powder for excellent flowability and filling
 properties in powder metallurgy)
IT Plastics, uses
 (thermoplastics, lubricative powder; Fe-based powder
 mixts. containing antistatic lubricative powder for excellent
 flowability and filling properties in powder
 metallurgy)
IT Iron alloy, base
 (Fe-based powder mixts. containing antistatic lubricative
 powder for excellent flowability and filling properties in
 powder metallurgy)
IT 7439-89-6, Iron, uses 429675-59-2, KIP 301A 639820-28-3, KIP 255M
 (Fe-based powder mixts. containing antistatic lubricative
 powder for excellent flowability and filling properties in
 powder metallurgy)
IT 7440-50-8, Copper, uses 7782-42-5, Graphite, uses
 (alloying component; Fe-based powder mixts. containing antistatic
 lubricative powder for excellent flowability and filling
 properties in powder metallurgy)
IT 12441-09-7D, Sorbitan, fatty acid esters
15178-71-9 23609-76-9 25322-68-3D, alkyl ethers, fatty
acid esters 89310-57-6
 (antistatic agent; Fe-based powder mixts. containing antistatic
 lubricative powder for excellent flowability and filling
 properties in powder metallurgy)
IT 111768-67-3, Butyl acrylate-methyl methacrylate graft copolymer

130931-90-7, Ethyl acrylate-styrene graft copolymer
(core-shell, thermoplastic resin lubricative powder;
Fe-based powder mixts. containing antistatic lubricative
powder for excellent flowability and filling properties in
powder metallurgy)

IT 57-11-4, Stearic acid, uses 110-30-5,
Ethylene bis(stearic acid amide)
124-26-5, Stearic acid amide
301-02-0, Oleic acid amide
9002-88-4, Polyethylene
(lubricant; Fe-based powder mixts. containing antistatic
lubricative powder for excellent flowability and filling
properties in powder metallurgy)

IT 9003-54-7, Acrylonitrile-styrene copolymer 9011-14-7, Poly(methyl
methacrylate) 25213-39-2, Butyl methacrylate-styrene copolymer
25232-40-0, Butadiene-methyl methacrylate copolymer 25608-33-7,
Butyl methacrylate-methyl methacrylate copolymer
(thermoplastic resin lubricative powder; Fe-based powder
mixts. containing antistatic lubricative powder for excellent
flowability and filling properties in powder
metallurgy)

L65 ANSWER 3 OF 9 HCPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:777069 HCPLUS Full-text
DOCUMENT NUMBER: 139:279769
TITLE: Accelerated powder metallurgy
manufacturing technique using microwaves
INVENTOR(S): Wang, Jenn-Shing; Lin, Wen-Hao; Chen, Chih-Cheng
PATENT ASSIGNEE(S): Taiwan
SOURCE: U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030185698	A1	20031002	US 2003-392937 <--	20030321
TW 534845	B	20030601	TW 2002-91106098 <--	20020328
PRIORITY APPLN. INFO.:			TW 2002-91106098	A 20020328 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The manufacturing technique for powder metallurgy of the invention includes the steps of: mixing ceramic powder with binders, fillings or lubricants for casting a body; forming a microwave-absorbent body using molding, extrusion, forging, injection or doctor blade; placing the body into a microwave oven for heating and debinding; placing the half-finished product after debinding in a sintering oven for sintering the debinded half-finished product; and finally obtaining a finished product after sintering and temperature lowering. This leads to an accelerated procedure for the manufacturing of powder metallurgy products.

IC ICM B22F0003-105

INCL 419056000

CC 56-4 (Nonferrous Metals and Alloys)

Section cross-reference(s): 57

ST accelerated powder metallurgy ceramic microwave
binder forming sinter density

- IT Binders
 - Density
 - Extrusion of metals
 - Forging
 - Lubricants
 - Microwave
 - Molding
 - Powder metallurgy
 - Sintering
 - (accelerated powder metallurgy manufacturing technique using microwaves)
- IT Powders
 - (ceramic; accelerated powder metallurgy manufacturing technique using microwaves)
- IT Hydrocarbons, uses
 - (fatty acids, macromol. binder, filler, lubricant; accelerated powder metallurgy manufacturing technique using microwaves)
- IT Alcohols, uses
 - (fatty, macromol. binder, filler, lubricant; accelerated powder metallurgy manufacturing technique using microwaves)
- IT Molding
 - (injection; accelerated powder metallurgy manufacturing technique using microwaves)
- IT Alkanes, uses
 - Epoxy resins, uses
 - Fatty acids, uses
 - Polyamides, uses
 - Polyoxyalkylenes, uses
 - Polysulfones, uses
 - Waxes
 - (macromol. binder, filler, lubricant; accelerated powder metallurgy manufacturing technique using microwaves)
- IT Acetals
 - (polyacetals, nonpolymeric, macromol. binder, filler, lubricant; accelerated powder metallurgy manufacturing technique using microwaves)
- IT Ceramics
 - (powders; accelerated powder metallurgy manufacturing technique using microwaves)
- IT Fats and Glyceridic oils, uses
 - (vegetable, macromol. binder, filler, lubricant; accelerated powder metallurgy manufacturing technique using microwaves)
- IT 50-00-0, Formaldehyde, uses 57-11-4, Stearic acid , uses 79-10-7, Acrylic acid, uses 84-66-2, Diethyl phthalate 108-95-2, Phenol, uses 112-80-1, Oleic acid, uses 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-29-6, Polybutylene 9003-53-6, Polystyrene 9003-55-8, Styrene-butadiene copolymer 9004-35-7, Cellulose acetate 9004-57-3, Ethyl cellulose 9004-64-2, Hydroxypropyl cellulose 9004-67-5, Methylcellulose 9033-83-4, Polyphenylene 24937-78-8, Poly (Ethylene vinyl acetate) 25322-68-3, Polyethylene oxide
 - (macromol. binder, filler, lubricant; accelerated powder metallurgy manufacturing technique using microwaves)
- IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses (non-microwave medium; accelerated powder

metallurgy manufacturing technique using microwaves)
 IT 409-21-2, Silicon carbide, processes 1305-78-8, Calcia, processes 1307-96-6, Cobalt oxide (CoO), processes 1308-38-9, Chromia, processes 1309-48-4, Magnesia, processes 1312-81-8, Lanthanum oxide 1313-99-1, Nickel oxide, processes 1314-11-0, Strontium oxide (SrO), processes 1314-13-2, Zinc oxide, processes 1314-23-4, Zirconia, processes 1314-35-8, Tungsten oxide (WO₃), processes 1314-60-9, Antimony oxide 1314-61-0, Tantalum oxide 1317-36-8, Lead oxide (PbO), processes 1317-38-0, Copper oxide (CuO), processes 1332-29-2, Tin oxide 1345-25-1, Iron oxide (FeO), processes 7440-44-0, Carbon, processes 7727-37-9, Nitrogen, processes 11104-93-1, Nitrogen oxide, processes 12036-39-4, Strontium zirconium oxide (SrZrO₃) 12045-60-2, Boron oxide (B₂O) 12057-24-8, Lithium oxide (Li₂O), processes 12058-07-0, Molybdenum oxide (MoO) 12060-59-2, Strontium titanium oxide (SrTiO₃) 12070-08-5, Titanium carbide 12070-12-1, Tungsten carbide 12385-15-8, Carbide 13463-67-7, Titania, processes 16833-27-5, Oxide 18496-25-8, Sulfide 18851-77-9, Nitride 61115-22-8, Lanthanum manganese oxide 61331-76-8, Magnesium tungsten oxide 67181-90-2, Calcium manganese oxide
 (powders containing; accelerated powder metallurgy manufacturing technique using microwaves)

L65 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:590405 HCAPLUS Full-text

DOCUMENT NUMBER: 139:152927

TITLE: Solid lubricant polymer compositions for steel powder metallurgy

INVENTOR(S): Luk, Sydney; Poszmk, George

PATENT ASSIGNEE(S): Hoeganaes Corp., USA

SOURCE: U.S. Pat. Appl. Publ., 10 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

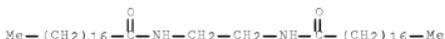
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030140730	A1	20030731	US 2002-56965 <--	20020125
US 6802885	B2	20041012		
EP 1468585	B1	20080716	EP 2003-707443 <--	20030117
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PT, SE, SI, SK, TR				
AT 401154	T	20080815	AT 2003-707443 <--	20030117
CA 2447806	C	20090908	CA 2003-2447806 <--	20030117
KR 865929	B1	20081029	KR 2003-716075 <--	20031208
PRIORITY APPLN. INFO.:			US 2002-56965 <--	A 20020125
			WO 2003-US1584 <--	W 20030117

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The invention relates to improved metallurgical powder (e.g., Ancorsteel 1000B) compns. that incorporate solid lubricants, methods for preparing and using the same, and methods of making compacted parts. Ejection properties,

such as stripping pressure and sliding pressure, of compacted parts can be improved by using the solid lubricants. The solid lubricants contain functionalized polyalkylene lubricants have the formula: R1-Q-R2 where Q is a linear or branched, polyalkylene containing from 10 to 200 carbon atoms, and R1 and R2 are each independently a hydroxyl group, a carboxylic acid group or a metal salt thereof, an amine group, a mono- or di-C1 to C25 alkyl substituted amine group, or an alkylene oxide group having the formula: $-(CH_2)_qO(CH_2)_nH$ where q is from 1 to 7, n is from 1 to 100. The functionalized polyalkylene lubricant is in the form of a powder having a particle size of 2-200 μ m. The polyalkylene comprises polyethylene, polypropylene, polybutylene, polypentylene or combinations thereof. The solid lubricant composition, of at least one addnl. lubricant comprising amines, amides, or polyamides, metal salts of polyamides, fatty acids or fatty alcs., metal salts of fatty acids, or combinations thereof (e.g., 30 weight% of stearic acid, ethylene bis-stearamide, and 40 weight% of polyethylene alc. Unilin 700).

IT 110-30-5, Ethylene bis-stearamide
 (component of solid lubricant; solid lubricant
 polymer compns. for steel powder metallurgy)
 RN 110-30-5 HCPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM C22C0001-05
 INCL 075252000; 41906500
 CC 55-4 (Ferrous Metals and Alloys)
 Section cross-reference(s): 38
 ST steel powder metallurgy polymer lubricant
 IT Polyolefins
 (functionalized polyalkylene lubricants; solid
 lubricant polymer compns. for steel powder
 metallurgy)
 IT Powder metallurgy
 (solid lubricant polymer compns. for steel powder
 metallurgy)
 IT Lubricants
 (solid, polymer; solid lubricant polymer compns. for
 steel powder metallurgy)
 IT 9002-88-4, Polyethylene
 (X 1133, component of solid lubricant; solid
 lubricant polymer compns. for steel powder
 metallurgy)
 IT 57-11-4, Stearic acid, uses 110-30-5,
 Ethylene bis-stearamide 9003-28-5, Polybutene 31784-47-1
 (component of solid lubricant; solid lubricant
 polymer compns. for steel powder metallurgy)
 IT 113096-42-7, Unilin 700
 (polyethylene alc., component of solid lubricant; solid
 lubricant polymer compns. for steel powder
 metallurgy)
 IT 80620-32-2, Ancorsteel 1000B, processes
 (steel powder; solid lubricant polymer compns. for steel
 powder metallurgy)

RETABLE

Referenced Author | Year | VOL | PG | Referenced Work | Referenced

(RAU)	(R PY)	(R VL)	(R PG)	(R WK)	File
Causton	1992			US 5108493 A	HCAPLUS
Engstrom	1984			US 4483905 A	HCAPLUS
Lindenau	2001			US 6224823 B1	HCAPLUS
Luk	1994			US 5290336 A	HCAPLUS
Luk	1994			US 5368630 A	HCAPLUS
Luk	1996			US 5498276 A	HCAPLUS
Luk	1996			US 5518639 A	HCAPLUS
Luk	1996			US 5538684 A	HCAPLUS
Luk	1997			US 5624631 A	HCAPLUS
Luk	2000			US 6039784 A	HCAPLUS
Luk	2000			US 6126715 A	
Matthews	1997			US 5637132 A	HCAPLUS
Narasimhan	2002			US 6346133 B1	HCAPLUS
Narasimhan	2002			US 6364927 B1	HCAPLUS
Rutz	1992			US 5154881 A	HCAPLUS
Semel	1989			US 4834800 A	HCAPLUS
Semel	1993			US 5256185 A	HCAPLUS
Semel	1994			US 5298055 A	HCAPLUS
Semel	2000			US 6068813 A	
Storstrom	1996			US 5480469 A	HCAPLUS
Yamashita	2001			US 6187259 B1	HCAPLUS

OS.CITING REF COUNT: 1 THERE ARE 1 CAPIUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L65 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2001:817195 HCAPLUS Full-text
 DOCUMENT NUMBER: 135:334015
 TITLE: Lubricants for die lubrication
 and manufacturing method for high-density
 iron-based powder compacts
 INVENTOR(S): Ozaki, Yukiko; Uenosono, Satoshi; Unami, Shigeru
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20010038802	A1	20011108	US 2001-817171 ----- <--	20010327
US 6861028	B2	20050301		
JP 2001342478	A	20011214	JP 2001-45036 ----- <--	20010221
JP 4228547	B2	20090225		
WO 2001072457	A1	20011004	WO 2001-JP2358 ----- <--	20010323
W: CA, KR RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1199124	A1	20020424	EP 2001-915739 ----- <--	20010323
EP 1199124 R: AT, DE, SE	B1	20050601		
AT 296701	T	20050615	AT 2001-915739 ----- <--	20010323

December 11, 2009

10/586,631

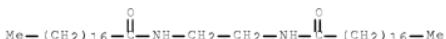
17

TW 495403	B	20020721	TW 2001-90107215	20010327
JP 2008248253	A	20081016	JP 2008-116518	20080428
PRIORITY APPLN. INFO.:			JP 2000-89015	A 20000328
			JP 2001-45036	A 20010221
			WO 2001-JP2358	W 20010323
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A manufacturing method for high-d. Fe-based powder compacts is disclosed. The temperature of the die is adjusted at ordinary temperature or at a predetd. temperature by preheating. A lubricant for die lubrication prepared by mixing of ≥ 2 different lubricants having m.ps. higher than a predetd. temperature of the compaction pressure is sprayed at the upper part of the die and is introduced into the die and adhered by electrification to the surface of the die. The resulting die is filled with an Fe-based mixed powder including a lubricant and molding is performed at ordinary temperature or at a temperature raised by heating. The ≥ 2 different lubricants having m.ps. higher than the predetd. temperature of the compaction pressure are preferably ≥ 2 materials selected from ≥ 1 of the following groups: metallic soaps, amide-based waxes, polyamides, polyethylenes, polypropylenes, polymers comprised of acrylic acid esters, polymers having methacrylic acid ester, plastics including fluorine and lubricants having layered crystal structures.

IT 110-30-5, Ethylene-bis-stearamide
 124-26-5, Stearamide
 (in lubricants for die lubrication in manufacture of
 high-d. iron-based powder compacts)
 RN 110-30-5 HCPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCPLUS
 CN Octadecanamide (CA INDEX NAME)



IC ICM B22F0001-00
 ICS C22C0001-05
 INCL 419036000
 CC 56-4 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 51
 ST iron powder compact manuf die lubricant
 IT Waxes
 (amide-based; in lubricants for die
 lubrication in manufacture of high-d. iron-based powder
 compacts)

IT Powder metallurgy
 (compaction; lubricants for die lubrication and
 manufacturing method for high-d. iron-based powder compacts)

IT Plastics, uses
 (fluorine-containing; in lubricants for die
 lubrication in manufacture of high-d. iron-based powder
 compacts)

IT Lubricants
 (for die lubrication and manufacturing method for high-d.
 iron-based powder compacts)

IT Polyamides, uses

Soaps
 (in lubricants for die lubrication in manufacture of
 high-d. iron-based powder compacts)

IT Iron alloy, base
 (die lubrication in manufacture of high-d. iron-based powder
 compacts)

IT 369361-65-9
 (die lubrication in manufacture of high-d. iron-based powder
 compacts)

IT 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, Methacrylic acid,
 esters, polymers 110-30-5, Ethylene-bis-stearamide
 112-80-1, Oleic acid, uses 124-26-5,
 Stearamide 557-05-1, Zinc stearate 1333-61-5, Lithium
 hydroxystearate 1592-23-0, Calcium stearate 4485-12-5,
 Lithium stearate 9002-88-4, Polyethylene 9003-07-0, Polypropylene
 9003-42-3, Poly(ethylmethacrylate) 9011-14-7,
 Poly(methylmethacrylate)
 (in lubricants for die lubrication in manufacture of
 high-d. iron-based powder compacts)

RETABLE

Referenced (RAU)	Author	Year	VOL	PG	Referenced Work	Referenced File
			(R PY)	(R VL)	(R PG)	(R WK)
Anon		1990			JP A2156002	
Anon		1992			EP 0468278 A1	HCAPLUS
Anon		1993			EP 0576282 A2	HCAPLUS
Anon		1995			JP A7103404	
Anon		1996			JP A8100203	
Anon		1999			EP 0913220 A1	HCAPLUS
Anon		1999			JP 11193404	HCAPLUS
Anon		2000			EP 1145788 A1	HCAPLUS
Anon		2001			JP 2000290703	HCAPLUS
Ball		1997	133	123	The International Jo	HCAPLUS
Bocksteigel		1970	14	187	Proceedings of the I	
Inculet		1997			US 5682591 A	
Luk		1994			US 5368630 A	HCAPLUS
Ohno		1980			US 4225546 A	
Semel		1993			US 5256185 A	HCAPLUS
Unami		2002			US 6355208 B1	HCAPLUS
OS.CITING REF COUNT:	3	THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)				

L65 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1999:649442 HCAPLUS Full-text
 DOCUMENT NUMBER: 131:246249
 TITLE: Sintered metal part composition having
 boric acid-containing lubricants
 INVENTOR(S): McCall, James M.; Blachford, John; Cole, Margaret
 PATENT ASSIGNEE(S): H. L. Blachford Ltd./Ltee, Can.

SOURCE: Can. Pat. Appl., 23 pp.
 CODEN: CPXXEB
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2248447	A1	19990325	CA 1998-2248447 <--	19980922
CA 2248447	C	20030506	US 1997-937398 <--	A 19970925

PRIORITY APPLN. INFO.:

AB The composition contains a metal powder and a lubricant mixture comprising boric acid and ≥ 1 other powder metallurgy lubricants, where the amount of lubricant mixture is 0.1-5 weight%. Preferably, the metal powder is a Fe-based powder containing graphite and Cu as additives; and the other powder metallurgy lubricant is Zn stearate, Li stearate, Li 12-hydroxy stearate, ethylene-bisstearamide, or stearic acid. The sintered metal part is manufactured by: compacting the powder mixture with lubricant mixture in a mold, de-molding, heating to remove the lubricant, and sintering.
 IT 110-30-5, Ethylene-bisstearamide
 (lubricant containing; sintered metal part composition
 having boric acid-containing lubricants)
 RN 110-30-5 HCPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0001-00
 ICS B22F0003-16; C10M0125-26
 CC 55-4 (Ferrous Metals and Alloys)
 Section cross-reference(s): 38, 51, 56
 ST boric acid lubricant sintered metal part
 IT Powder metallurgy
 (sintered metal part composition having boric acid-containing
 lubricants)
 IT Lubricants
 (solid; sintered metal part composition having boric
 acid-containing lubricants)
 IT 7440-50-8, Copper, processes 7782-42-5, Graphite, processes
 (additive; in sintered metal part composition having boric
 acid-containing lubricants)
 IT 57-11-4, Octadecanoic acid, processes
 110-30-5, Ethylene-bisstearamide 557-05-1, Zinc
 stearate 4485-12-5, Lithium stearate 7620-77-1, Lithium 12-
 hydroxy stearate
 (lubricant containing; sintered metal part composition
 having boric acid-containing lubricants)
 IT 7439-89-6, Iron, processes
 (sintered iron-based metal part composition having boric
 acid-containing lubricants)
 IT 10043-35-3, Boric acid, processes
 (sintered metal part composition having boric acid-containing

(lubricants)

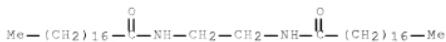
L65 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1998:635701 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 129:233840
 ORIGINAL REFERENCE NO.: 129:47523a,47526a
 TITLE: Iron base powder mixture for powder
 metallurgy excellent in fluidity
 and moldability, method of production thereof, and
 method of production of molded article by using
 the iron base powder mixture
 INVENTOR(S): Ozaki, Yukiko; Uenosono, Satoshi; Ogura, Kuniaki
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: PCT Int. Appl., 86 pp.
 CODEN: PIXKD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9841347	A1	19980924	WO 1998-JP1147	19980318 <--
W: CA, US RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2255861	A1	19980924	CA 1998-2255861	19980318 <--
CA 2255861	C	20060822		
EP 913220	A1	19990506	EP 1998-909734	19980318 <--
EP 913220 R: SE	B1	20081210		
JP 10317001	A	19981202	JP 1998-71000	19980319 <--
JP 3509540 TW 416878	B2	20040322		
TW 416878	B	20010101	TW 1998-87104086	19980319 <--
US 6235076	B1	20010522	US 1998-171911	19981028 <--
US 20010028859	A1	20011011	US 2001-767111	20010122 <--
US 6503445	B2	20030107		
PRIORITY APPLN. INFO.:			JP 1997-66767	A 19970319 <--
			WO 1998-JP1147	W 19980318 <--
			US 1998-171911	A3 19981028 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB An Fe base powder mixture having high flowability at room temperature and good moldability contains an Fe base powder, a lubricant and alloying powder. At least one of the components is coated with ≥ 1 surface-treating agent selected from the group consisting of organoalkoxysilanes, organosilazanes, titanate coupling agents and F-containing coupling agents. The iron base powder mixture is press-molded at a temperature higher than the lowest m.p. but lower than the highest m.p. of the lubricants contained in the mixture
 IT 110-30-5 124-26-5, Stearyl amide
 (lubricant; iron base powder mixture for powder

metallurgy having good fluidity and moldability)
 RN 110-30-5 HCPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCPLUS
 CN Octadecanamide (CA INDEX NAME)



IC ICM B22F0001-02
 ICS C22C0033-02
 CC 55-4 (Ferrous Metals and Alloys)
 IT Polysiloxanes, uses
 (Me Ph, surface-treating agent; iron base powder mixture for
 powder metallurgy having good fluidity
 and moldability)
 IT Fatty acids, uses
 Thermoplastic rubber
 (additive to lubricant; iron base powder mixture for
 powder metallurgy having good fluidity
 and moldability)
 IT Silanes
 (alkoxy, surface treatment with; iron base powder mixture for
 powder metallurgy having good fluidity
 and moldability)
 IT Polysiloxanes, uses
 (di-Me, surface-treating agent; iron base powder mixture for
 powder metallurgy having good fluidity
 and moldability)
 IT Amides, uses
 (fatty, lubricant; iron base powder mixture for
 powder metallurgy having good fluidity
 and moldability)
 IT Polysiloxanes, uses
 Polysiloxanes, uses
 (fluorine-containing, surface-treating agent; iron base powder mixture
 for powder metallurgy having good
 fluidity and moldability)
 IT Hydrocarbons, uses
 (fluoro, additive to lubricant; iron base powder mixture
 for powder metallurgy having good
 fluidity and moldability)
 IT Lubricants
 (in iron base powder mixture for powder metallurgy
 having good fluidity and moldability)
 IT Polyamides, uses
 (iron base powder mixture for powder metallurgy
 having good fluidity and moldability)

IT Soaps
(lubricant; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT Fluoropolymers, uses
Fluoropolymers, uses
(polysiloxane-, surface-treating agent; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT Coupling agents
(surface treatment with; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT Hydrocarbon oils
Polysiloxanes, uses
Silazanes
(surface treatment with; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT Plastics, uses
(thermoplastics, additive to lubricant; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT 1317-33-5, Molybdenum sulfide (MoS₂), uses 7782-42-5, Graphite, uses 9002-88-4 37640-57-6, Melamine cyanurate
(additive to lubricant; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT 1333-61-5, Lithium hydroxystearate
(additive; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT 7439-89-6, Iron, uses 9003-53-6, Polystyrene 12756-93-3
88455-65-6 106107-54-4, SBS 212705-16-3, uses
(iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT 4696-56-4, Calcium laurate
(lubricant containing; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT 110-30-5 112-80-1, 9-Octadecenoic acid
(9Z)-, uses 124-26-5, Stearyl amide 557-05-1,
Zinc stearate 4485-12-5, Lithium stearate
(lubricant; iron base powder mixture for powder metallurgy having good fluidity and moldability)

IT 1185-55-3 1760-24-3, N-β-(Aminoethyl)-γ-aminopropyltrimethoxysilane 2530-83-8 2530-85-0 2996-92-1,
Phenyltrimethoxysilane 6843-66-9, Diphenyldimethoxysilane 61417-49-0, Isopropyltrisostearoyl titanate
(surface-treating agent; iron base powder mixture for powder metallurgy having good fluidity and moldability)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (RWK)	Referenced File
Daido Steel Co Ltd	1989			JP 01255602 A	HCAPLUS
Kawasaki Steel Corp	1991			JP 03162502 A	HCAPLUS
Kawasaki Steel Corp	1997			JP 05104901 A	HCAPLUS
Kawasaki Steel Corp	1997			WO 9805454 A1	HCAPLUS
Tohoku Kinzoku Kogyo Lt	1987			JP 62282418 A	HCAPLUS
Toshiba Corp	1992			JP 456702 A	
OS.CITING REF COUNT:	4	THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)			

L65 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:397160 HCAPLUS Full-text
 DOCUMENT NUMBER: 127:37746
 ORIGINAL REFERENCE NO.: 127:7203a, 7206a
 TITLE: Iron-base powder having good flowability and
 formability for powder
 metallurgy and its manufacture
 INVENTOR(S): Ozaki, Yukiko; Uenosono, Satoshi; Ogura, Kuniaki
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan; JFE Steel Corp.
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09104901	A	19970422	JP 1996-223181 <--	19960805
JP 3509408	B2	20040322		
WO 9805454	A1	19980212	WO 1997-JP29 <--	19970109
W: US RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 853994	A1	19980722	EP 1997-900114 <--	19970109
EP 853994 R: SE	B1	20041006		
US 5989304	A	19991123	US 1997-973142 <--	19971128
US 6139600	A	20001031	US 1999-401841 <--	19990922
PRIORITY APPLN. INFO.:			JP 1995-199646 <--	A 19950804
			JP 1996-223181 <--	A 19960805
			WO 1997-JP29 <--	W 19970109
			US 1997-973142 <--	A3 19971128

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The metallurgical powder is a mixture of an Fe-base powder, an alloying powder, lubricant, and surface treating agents. The surface treating agents are selected from alkanoalcoxysilane, alkanol-siloxane, silicone oil, titanate series coupling agents, fluoro series coupling agents, and mineral oil. The lubricant is selected from fatty acid amide and/or metal soap, graphite, MoS₂, etc.

IC ICM B22F0001-02
ICS B22F0001-02; B22F0001-00

CC 55-4 (Ferrous Metals and Alloys)

IT Polysiloxanes, uses
 (Me Ph; iron-base powder having good flowability and formability
 for powder metallurgy)

IT 112-80-1, Oleic acid, uses 546-68-9 557-05-1,
 Zinc stearate 1185-55-3, Methyltrimethoxysilane 1333-61-5, Lithium
 hydroxystearate 1760-24-3,
 N-β(Aminoethyl)γ-aminopropyltrimethoxysilane 2530-83-8,
 γ-Glycidoxypropyltrimethoxysilane 2530-85-0,

γ -Methacryloxypropyltrimethoxysilane 2996-92-1,
 Phenyltrimethoxysilane 4485-12-5, Lithium stearate 6843-66-9,
 Diphenyldimethoxysilane 7782-42-5, Graphite, uses 9016-00-6,
 Dimethyl silicone
 (iron-base powder having good flowability and formability for
 powder metallurgy)
 IT 7439-89-6, Iron, uses 7440-50-8, Copper, uses 12597-69-2, Steel,
 uses
 (powdered; iron-base powder having good flowability and formability
 for powder metallurgy)
 OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS
 RECORD (8 CITINGS)

L65 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:705542 HCAPLUS Full-text
 DOCUMENT NUMBER: 121:305542
 ORIGINAL REFERENCE NO.: 121:55851a,55854a
 TITLE: Iron-based powder mixtures with heat-resistant
 lubricant for sintering preforms
 INVENTOR(S): Luk, Sydney
 PATENT ASSIGNEE(S): Hoeganaes Corp., USA
 SOURCE: PCT Int. Appl., 30 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9423868	A1	19941027	WO 1994-US3947 <--	19940411
W: JP, KR RW: AT, CH, DE, DK, ES, FR, GB, IT, SE				
US 5368630	A	19941129	US 1993-46234 <--	19930413
EP 644808	A1	19950329	EP 1994-914110 <--	19940411
EP 644808 R: AT, CH, DE, DK, ES, FR, GB, IT, LI, SE	B1	20040929		
JP 07504715	T	19950525	JP 1994-523364 <--	19940411
AT 277709	T	20041015	AT 1994-914110 <--	19940411
ES 2229217	T3	20050416	ES 1994-914110 <--	19940411
US 5429792	A	19950704	US 1994-250026 <--	19940527
KR 9710780	B1	19970701	KR 1994-74528 <--	19941212
HK 1014360	A1	20050520	HK 1998-115650 <--	19981224
PRIORITY APPLN. INFO.:			US 1993-46234 <--	A 19930413
			WO 1994-US3947 <--	W 19940411

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The Fe-based sintering mixts. contain minor alloying powders (especially graphite at 0.25-5%), $\leq 15\%$ (especially 0.1-2%) heat-resistant polyamide as a compaction lubricant, and a minor amount (especially 0.005-3%) of organic

binder. The polyamide lubricant is reaction product of C6-12 linear dicarboxylic acid 10-30, C10-22 monocarboxylic acid 10-30, and $(\text{CH}_2)_2-\text{NH}_2$ 2 diamine 40-80%. The organic binder is selected from cellulose ester resins, hydroxy alkylcellulose resins with Cl-4 alkyl moiety, and/or thermoplastic phenolic resins. The polyamide lubricant of ethylene bis-stearamide type (m.p. 200-300°) is suitable for pressing at 149° or 204° of the preforms based on Distaloy 4800A steel powder with graphite powder 0.6, lubricant 0.6, and organic binders 0.15%. The resulting preform d. was .apprx.7.3 g/cm³, and the sintered d. was similar, vs. .apprx.7.13 g/cm³ when pressed at room temperature and .apprx.7.14 after sintering.

IT 110-30-5
 (polyamides, lubricants; iron-based powder mixts. with binder and heat-resistant lubricant for sintering preforms)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0001-00

CC 55-4 (Ferrous Metals and Alloys)

ST steel sintering powder polyamide lubricant ; ethylene stearamide lubricant iron powder

IT Polyamides, uses
 (lubricants; iron-based powder mixts. with heat-resistant lubricant for sintering preforms)

IT Lubricants
 (polyamides, heat-resistant; iron-based powder mixts. with binder and heat-resistant lubricant for sintering preforms)

IT Phenolic resins, uses
 (thermoplastic, binders; iron-based powder mixts. with heat-resistant lubricant for sintering preforms)

IT Resin acids and Rosin acids
 (sodium salts, binder; iron-based powder mixts. with binder and heat-resistant lubricant for sintering preforms)

IT Iron alloy, base
 (powder metallurgy of; iron-based powder mixts. with heat-resistant lubricant for sintering preforms)

IT 57-11-4D, Stearic acid, reaction products with ethylenediamine-sebacic acid copolymer 32126-82-2D, reaction products with stearic acid
 (binder; iron-based powder mixts. with binder and heat-resistant lubricant for sintering preforms)

IT 9004-34-6D, Cellulose, esters and ethers
 (iron-based powder mixts. with binder and heat-resistant lubricant for sintering preforms)

IT 110-30-5
 (polyamides, lubricants; iron-based powder mixts. with binder and heat-resistant lubricant for sintering preforms)

IT 30585-15-0D, Ethylenediamine-sebacic acid copolymer, reaction products

with stearic acid
 (polyamides, lubricants; iron-based powder
 mixts. with binder and heat-resistant lubricant for
 sintering preforms)

IT 112814-42-3, Distaloy 4800A
 (powder metallurgy of; iron-based powder mixts.
 with binder and heat-resistant lubricant for
 sintering preforms)

IT 12597-69-2, Steel, processes
 (powder metallurgy of; iron-based powder mixts.
 with heat-resistant lubricant for sintering
 preforms)

IT 9004-35-7, Cellulose acetate 9004-36-8, Cellulose acetate butyrate
 9004-39-1, Cellulose acetate propionate 9004-62-0,
 Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl
 cellulose
 (resin binders; iron-based powder mixts. with binder and
 heat-resistant lubricant for sintering
 preforms)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
Anon				US 4834800 A	HCAPLUS
Anon				US 5154881 A	HCAPLUS
OS.CITING REF COUNT:	27	THERE ARE 27 CAPLUS RECORDS THAT CITE THIS RECORD (27 CITINGS)			

=> D L66 1-50 IBIB ABS HITSTR HITIND RETABLE

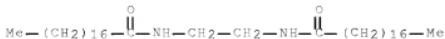
L66 ANSWER 1 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2006:679449 HCAPLUS Full-text
 DOCUMENT NUMBER: 145:127262
 TITLE: Lubricant for die adhesion
 INVENTOR(S): Fujiki, Akira; Maekawa, Yukihiro; Adachi, Yasushi
 PATENT ASSIGNEE(S): Nissan Motor Co., Ltd., Japan; Yoko Sangyo K. K.;
 Asahi Denka Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006182964	A	20060713	JP 2004-379997 <--	20041228
PRIORITY APPLN. INFO.:			JP 2004-379997 <--	20041228

AB The title lubricant comprises (A) crystalline-type N,N'-alkylenebis(carboxylic acid monoamide), in the ratio of α -type: β -type = (0-30):(70-100),, (B) carboxylic acid metal salts, and optionally (C) carboxylic acid monoamide. The lubricant has an average grain diameter of 0.1-200 μ m. The lubricant is superior in enough electrification adhesion force and good mold-release characteristic of molding in powder-metallurgy.

IT 110-30-5 124-26-5, Stearylamine
 (lubricant for die adhesion for superior mold-release
 characteristic of molding in powder metallurgy)

RN 110-30-5 HCAPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS
 CN Octadecanamide (CA INDEX NAME)



CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 56
 ST lubricant die adhesion mold release characteristic
 powder metallurgy
 IT lubricants
 (for die adhesion for superior mold-release characteristic of
 molding in powder metallurgy)
 IT Molding
 (lubricant for die adhesion for superior mold-release
 characteristic of molding in powder metallurgy)
 IT 110-30-5 124-26-5, Stearyl amide 557-05-1, Zinc
 stearate 4485-12-5, Lithium stearate 4499-91-6, Lithium behenate
 20336-96-3, Lithium myristate
 (lubricant for die adhesion for superior mold-release
 characteristic of molding in powder metallurgy)

L66 ANSWER 2 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2005:963030 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:270103
 TITLE: Iron base powder mixture for high strength P/M
 products
 INVENTOR(S): Unami, Shigeru; Uenosono, Satoshi; Ono, Tomoshige;
 Ozaki, Yukiko
 PATENT ASSIGNEE(S): JFE Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
JP 2005232595	A	20050902	JP 2005-10151	20050118

PRIORITY APPLN. INFO.: JP 2004-13598 A 20040121
 <-->

AB The invention is characterized in the Fe base powder mixture that is comprised of alloyed steel powder (Ni: 0.5-3 and Mo 0.7-4%), a layer of Ni powder (0.5-5%), Cu powder (0.5-3%), and graphite (0.2-10%) on the surface of the steel

powder, and lubricant (0.05-0.6%). The lubricant is a powder with a size of 10-200 μ m that is aggregated from the finer powder with $\geq 20\%$ thereof having a grain size of 0.1-80 μ m. The Fe base powder mixture is suitable for high strength P/M products obtained by sintering at low temperature and eliminating after-sintering heat treatment.

IT 112-84-5, Erucic acid amide
 124-26-5, Stearic acid amide
 (binder; iron base powder mixture for high strength P/M products)
 RN 112-84-5 HCAPLUS
 CN 13-Docosenamide, (13Z)- (CA INDEX NAME)

Double bond geometry as shown.



RN 124-26-5 HCAPLUS
 CN Octadecanamide (CA INDEX NAME)



IC ICM B22F0001-00
 ICS B22F0001-02; C22C0038-00; C22C0033-02
 CC 55-4 (Ferrous Metals and Alloys)
 ST iron powder mixt strength sintering lubricant
 IT Lubricants
 (for iron base powder mixture for high strength P/M products)
 IT Powder metallurgy
 Powders
 Strength
 (iron base powder mixture for high strength P/M products)
 IT Polyamides, uses
 (lubricant; iron base powder mixture for high strength P/M products)
 IT 112-80-1, Oleic acid, uses 112-84-5,
 Erucic acid amide 124-26-5,
 Stearic acid amide 557-05-1, Zinc
 stearate 627-83-8 9002-88-4, Polyethylene
 (binder; iron base powder mixture for high strength P/M products)

L66 ANSWER 3 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2005:570204 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:89479
 TITLE: Composition for producing soft magnetic composites
 by powder metallurgy
 INVENTOR(S): Kjellen, Liza; Ahlin, Asa; Hultman, Lars;
 Andersson, Ola
 PATENT ASSIGNEE(S): Hoeganaes AB, Swed.
 SOURCE: U.S. Pat. Appl. Publ., 10 pp.
 CODEN: USXXCO

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050139038	A1	20050630	US 2004-15254 <--	20041220
US 7494600	B2	20090224		
AU 2004309770	A1	20050714	AU 2004-309770 <--	20041215
AU 2004309770	B2	20080522		
CA 2552142	A1	20050714	CA 2004-2552142 <--	20041215
WO 2005064621	A1	20050714	WO 2004-SE1865 <--	20041215
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1700319	A1	20060913	EP 2004-809049 <--	20041215
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1902719	A	20070124	CN 2004-80039452 <--	20041215
CN 100533610	C	20090826		
BR 2004018274	A	20070502	BR 2004-18274 <--	20041215
ZA 2006005385	A	20071128	ZA 2006-5385 <--	20041215
JP 2007535134	T	20071129	JP 2006-546896 <--	20041215
RU 2326461	C2	20080610	RU 2006-127438 <--	20041215
KR 775179	B1	20071112	KR 2006-712850 <--	20060627
MX 2006007461	A	20060809	MX 2006-7461 <--	20060628
IN 2006CN02365	A	20070706	IN 2006-CN2365 <--	20060628
US 20090152489	A1	20090618	US 2009-320237 <--	20090122
PRIORITY APPLN. INFO.:			SE 2003-3580 <--	A 20031229
			US 2004-543277P <--	P 20040211
			WO 2004-SE1865 <--	W 20041215
			US 2004-15254 <--	A3 20041220

AB The invention concerns powder compns. consisting of elec. insulated particles of a soft magnetic material of an Fe or Fe-based powder and 0.1-2% by weight of a lubricant selected from the group consisting of fatty acid amides having 14-22 C atoms. Optionally a thermoplastic binder such as polyphenylene sulfide may be included in the composition. The invention also concerns a method for the preparation of soft magnetic composite components.

124-26-5. Stearic acid amide

301-92-9. Oleic acid amide

3061-75-6. Behenic acid amide

(lubricant; composition for producing soft magnetic composites by powder metallurgy)

RN 124-26-5 HCAPLUS

CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS

CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



RN 3061-75-4 HCAPLUS

CN Docosanamide (CA INDEX NAME)



TG TGM H01E0001-20

INCL 075246000: X14=810,4

CC 77-8 (Magnetic Phenomena)

ST powder compn soft magnetic composite lubricant

51 powder compn sets 52 Polythiophenylenes

(binders; composition for producing soft magnetic composites by powder metallurgy)

IT Lubricants

(composition for producing soft magnetic composites by powder metallurgy)

IT Amides

(fatty, lubricant; composition for producing soft magnetic composites by powder metallurgy)

IT Composites

(soft magnetic; composition for producing soft magnetic composites by powder metallurgy)

IT Magnetic particles
 (soft, elec. insulated; composition for producing soft magnetic composites by powder metallurgy)

IT Magnetic powders
 (soft; composition for producing soft magnetic composites by powder metallurgy)

IT Binders
 (thermoplastic; composition for producing soft magnetic composites by powder metallurgy)

IT 225655-71-0
 (composition for producing soft magnetic composites by powder metallurgy)

IT 57-11-4, Stearic acid, uses 124-26-5,
 Stearic acid amide 301-02-0,
 Oleic acid amide 3061-75-4,
 Behenic acid amide
 (lubricant; composition for producing soft magnetic composites by powder metallurgy)

IT 7439-89-6, Iron, processes
 (magnetic powders; composition for producing soft magnetic composites by powder metallurgy)

RETABLE

Referenced (RAU)	Author	Year	VOL	PG	Referenced (RVL)	Work (RPG)	Referenced (RWK)	Work File
Ahlin		2006			US 20060112783	A1	HCAPLUS	
Aichele		2003			US 6537389	B1	HCAPLUS	
Anon		1994			EP 0589088		HCAPLUS	
Anon		2001			WO 0122448		HCAPLUS	
Anon		2002			EP 1205949		HCAPLUS	
Chen		2005			US 6579409	B2	HCAPLUS	
Jansson		2002			US 6348265	B1	HCAPLUS	
Kitamura		2004			US 20040005479	A1	HCAPLUS	
Maetani		2003			US 20030180455	A1	HCAPLUS	
Matsukawa		2006			US 20060165985	A1	HCAPLUS	
Nitta		1994			US 5338508	A	HCAPLUS	
Ohmori		2002			US 20020084440	A1	HCAPLUS	
Ohmori		2005			US 6926963	B2	HCAPLUS	
Takayama		1997			US 5627258	A	HCAPLUS	
Ueta		2004			US 20040126609	A1	HCAPLUS	
OS.CITING REF COUNT:	1	THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)						

L66 ANSWER 4 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2004:779086 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:264180
 TITLE: Method for rust prevention of metal powder and
 rust preventive agents
 INVENTOR(S): Uchigaki, Tomoyoshi; Ito, Hisakuni
 PATENT ASSIGNEE(S): Ishizuka Glass Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004263231	A	20040924	JP 2003-53457	20030228

AB Near-net-shape soft magnetic components can be produced from iron powder lubricant compns. using powder metallurgy techniques. The resulting components have isotropic magnetic and thermal properties and may be shaped into complex geometry using conventional compaction techniques. A noncoated ferromagnetic powder is mixed with a lubricant and compacted. After compaction, the components are thermally treated at a moderate temperature to burn out the lubricant, relieve the stresses induced during pressing and reduce the hysteresis losses. Depending on the application, the properties of the material may be tailored by varying the content and type of the lubricant and the thermal treatment conditions.

IC ICM H01F001-22

CC 77-8 (Magnetic Phenomena)

Section cross-reference(s): 55

ST manuf soft magnetic component ferrous powder lubricant

IT Waxes
(amide-based, synthetic; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Binders
Compaction
Impregnation
Molding
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Epoxy resins, uses
Fatty acids, uses
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Magnetic materials
Magnetic powders
(soft; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Lubricants
(solid; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT 11129-12-7P, Borate
(esters; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT 557-04-0P, Magnesium stearate 557-05-1P, Zinc stearate
10043-35-2P, Boric acid, uses 380599-71-3P, Caplube J
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT 7439-89-6P, Iron, uses 119631-17-3P, uses
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

L66 ANSWER 6 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2004:447186 HCPLUS Full-text
 DOCUMENT NUMBER: 140:426751
 TITLE: Iron based alloy blends for powder metallurgy and their manufacture
 INVENTOR(S): Unami, Shigeru; Ozaki, Yukiko; Uenosono, Satoshi
 PATENT ASSIGNEE(S): JFE Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004156063	A	20040603	JP 2002-319890	20021101
JP 4144326	B2	20080903	JP 2002-319890	20021101
<--				

PRIORITY APPLN. INFO.:

AB A mixture of Fe based alloy powder, graphite, and an organic binder is heated to a temperature equal or above the m.p. of the binder for powder coating of Fe alloy powder with graphite and then mixed with 0.05-0.6 weight% secondary particles (size 10-200 μm) consisting of lubricant primary particles (size 0.1-80 μm) with application of shear force of not breaking the secondary particles. Thus manufactured mixture with >20 weight% of the free lubricant being secondary particles is also claimed. The mixture may also contain other alloy powder and/or powder for improvement of machinability. Compacts having high d. can be manufactured at standard temperature under easy release from the mold.

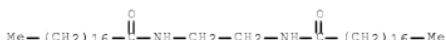
IT 110-30-5D, eutectic mixture with polyolefins

693239-19-9 693239-20-2

(lubricant; manufacture of Fe alloy powder with graphite powder coatings and secondary particle lubricants for powder metallurgy)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 693239-19-9 HCPLUS

CN Octadecanoic acid, mixt. with octadecanamide (9CI) (CA INDEX NAME)

CM 1

CRN 124-26-5

CMF C18 H37 N O



CM 2

CRN 57-11-4

CMF C18 H36 O2



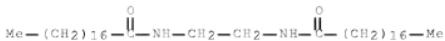
RN 693239-20-2 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis-, mixt. with ethene homopolymer
(9CI) (CA INDEX NAME)

CM 1

CRN 110-30-5

CMF C38 H76 N2 O2



CM 2

CRN 9002-88-4

CMF (C2 H4)x

CCI PMS

CM 3

CRN 74-85-1

CMF C2 H4

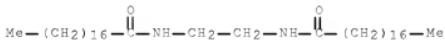


IT 110-30-5 124-26-5, Stearic acid amide

(organic binder, lubricant; manufacture of Fe alloy powder with graphite powder coatings and secondary particle lubricants for powder metallurgy)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCPLUS

CN Octadecanamide (CA INDEX NAME)



IC ICM B22F0001-00

CC 55-4 (Ferrous Metals and Alloys)
 ST iron based alloy blend powder metallurgy; graphite
 lubricant secondary particle iron powder
 metallurgy
 IT Polyolefins
 (lubricant; manufacture of Fe alloy powder with graphite
 powder coatings and secondary particle lubricants for
 powder metallurgy)
 IT Lubricants
 Powder metallurgy
 (manufacture of Fe alloy powder with graphite powder coatings and
 secondary particle lubricants for powder
 metallurgy)
 IT Particles
 (secondary; manufacture of Fe alloy powder with graphite powder coatings
 and secondary particle lubricants for powder
 metallurgy)
 IT 7440-50-8, Copper, uses 18820-29-6, Manganese sulfide (MnS)
 (addnl. component; manufacture of Fe alloy powder with graphite powder
 coatings and secondary particle lubricants for
 powder metallurgy)
 IT 110-30-5D, eutectic mixture with polyolefins 557-05-1, Zinc
 stearate 693239-18-8 693239-19-9 693239-20-2
 (lubricant; manufacture of Fe alloy powder with graphite
 powder coatings and secondary particle lubricants for
 powder metallurgy)
 IT 7439-89-6, Iron, uses 7782-42-5, Graphite, uses 259736-34-0,
 Steel, Fe 97, Ni 2, Mo 1, uses
 (manufacture of Fe alloy powder with graphite powder coatings and
 secondary particle lubricants for powder
 metallurgy)
 IT 110-30-5 124-26-5, Stearic
 acid amide 4485-12-5, Lithium stearate
 (organic binder, lubricant; manufacture of Fe alloy powder with
 graphite powder coatings and secondary particle lubricants
 for powder metallurgy)
 IT 1592-23-0, Calcium stearate
 (organic binder; manufacture of Fe alloy powder with graphite powder
 coatings and secondary particle lubricants for
 powder metallurgy)

L66 ANSWER 7 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:352929 HCPLUS Full-text

DOCUMENT NUMBER: 140:360080

TITLE: Compacted powder metallurgy
 -derived solid lubricants containing
 functionalized olefin oligomers

INVENTOR(S): Poszniak, George; Luk, Sydney

PATENT ASSIGNEE(S): Hoeganaes Corporation, USA

SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO

DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040081574	A1	20040429	US 2002-280409	20021025 <--

US 7125435	B2	20061024		
WO 2004039520	A1	20040513	WO 2003-US22454	20030716
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,				
IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1554072	A1	20050720	EP 2003-809919	20030716
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
AT 432137	T	20090615	AT 2003-809919	20030716
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ES 2327405	T3	20091029	ES 2003-809919	20030716
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PRIORITY APPLN. INFO.:				
		US 2002-280409	A 20021025	
		<--		
		WO 2003-US22454	W 20030716	
		<--		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Compacted metallurgical powder lubricating compns. are composed of (1) a metal-based powder ≥ 80 , (2) a solid lubricant consisting of a functionalized oligomeric polyolefin-type (C8-50) lubricant 0.01-5, and (3) an addnl. lubricant ≥ 10 weight%, selected from amines, amides, polyamides, metal salts of polyamides, C10-25-fatty acids or fatty alcs., and the corresponding metal salts. Component (2) has general structures Q1(R1)_x, Q1-(R1-Q2)n-R2, Q1-(R1-Q2)n-R2-Q3, and R1-Q1-(R2-Q2)-R3, in which Q1, Q2, and Q3 are linear or branched C8-1000-polyalkylenes; R1, R2, and R3 are selected from phosphate, phosphite, hypophosphate, hypophosphite, polyphosphate, thiophosphate, dithiophosphate, thiocarbamate, dithiocarbamate, borate, thiosulfate, sulfate, or sulfonate groups; n = 0-10, and x = 1-30.

IT 110-30-5, Acrawax C
(solid lubricant; compacted powder
metallurgy-derived solid lubricants containing
functionalized olefin oligomers)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0003-02
INCL 419066000; X7-525.2
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 55, 56
ST compaction powder metallurgy solid
lubricant; functionalized polyolefin solid lubricant
metal powder
IT Fatty acids, uses
(C10-25, solid lubricant; compacted powder
metallurgy-derived solid lubricants containing
functionalized olefin oligomers)
IT Polyoxyalkylenes, uses
(binder; compacted powder metallurgy-derived
solid lubricants containing functionalized olefin oligomers)

IT Powder metallurgy
 (compaction; compacted powder metallurgy
 -derived solid lubricants containing functionalized olefin
 oligomers)

IT Alcohols, uses
 (fatty, C10-25, metal salts, solid lubricant; compacted
 powder metallurgy-derived solid
 lubricants containing functionalized olefin oligomers)

IT Alcohols, uses
 (fatty, C10-25, solid lubricant; compacted powder
 metallurgy-derived solid lubricants containing
 functionalized olefin oligomers)

IT Fatty acids, uses
 (metal salts, C10-25, solid lubricant; compacted
 powder metallurgy-derived solid
 lubricants containing functionalized olefin oligomers)

IT Polyolefins
 (oligomers, functionalized; compacted powder
 metallurgy-derived solid lubricants containing
 functionalized olefin oligomers)

IT Amides, uses
 Amines, uses
 Polyamides, uses
 (solid lubricant; compacted powder
 metallurgy-derived solid lubricants containing
 functionalized olefin oligomers)

IT Lubricants
 (solid, additive, Kenolube; compacted powder
 metallurgy-derived solid lubricants containing
 functionalized olefin oligomers)

IT Lubricants
 (solid; compacted powder metallurgy-derived
 solid lubricants containing functionalized olefin oligomers)

IT 25322-68-3, Polyethylene glycol
 (binder; compacted powder metallurgy-derived
 solid lubricants containing functionalized olefin oligomers)

IT 9002-88-4DP, Polyethylene, functionalized 9003-07-ODP,
 Polypropylene, functionalized 9003-29-6DP, Polybutene,
 functionalized 9078-70-ODP, Polypentene, functionalized
 (oligomers; compacted powder metallurgy-derived
 solid lubricants containing functionalized olefin oligomers)

IT 1310-43-6, Ferrophos 7439-89-6, Iron, uses 7782-42-5, Graphite,
 uses 68892-73-9, Inco 123 80620-32-2, Ancorsteel 1000B, uses
 132861-13-3, Ancorsteel 85HP, uses
 (powdered; compacted powder metallurgy
 -derived solid lubricants containing functionalized olefin
 oligomers)

IT 110-30-5, Acrawax C 112-92-5, Stearyl alcohol 2958-09-0,
 Monostearyl phosphate 3037-89-6, Distearyl phosphate
 (solid lubricant; compacted powder
 metallurgy-derived solid lubricants containing
 functionalized olefin oligomers)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
Benjamin	1992			US 5104579 A	HCAPLUS
Bigelow	1998			US 5767044 A	HCAPLUS
Causton	1992			US 5108493 A	HCAPLUS
Dinger	1993			US 5260018 A	HCAPLUS

Engstrom	1984		US 4483905 A	HCAPLUS
Grady	2001		US 6287513 B1	
Hong	1995		US 5445749 A	HCAPLUS
Luk	1994		US 5290336 A	HCAPLUS
Luk	1996		US 5498276 A	HCAPLUS
Luk	1996		US 5518639 A	HCAPLUS
Luk	2004		US 6689188 B1	HCAPLUS
Luk	2004		US 6802885 B1	HCAPLUS
Rutz	1992		US 5154881 A	HCAPLUS
Semel	1989		US 4834800 A	HCAPLUS
Semel	1993		US 5256185 A	HCAPLUS
Semel	1994		US 5298055 A	HCAPLUS
Stork	1998		US 5837658 A	HCAPLUS
Thomas	2000		US 6140278 A	HCAPLUS
OS.CITING REF COUNT:	1	THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)		

L66 ANSWER 8 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2004:294378 HCAPLUS Full-text

DOCUMENT NUMBER: 141:143610

TITLE: Lubricant pyrolysis during sintering of powder metallurgy compacts

AUTHOR(S): Baum, M. M.; Becker, R. M.; Lappas, A. M.; Moss, J. A.; Apelian, D.; Saha, D.; Kapinus, V. A.

CORPORATE SOURCE: Department of Chemistry, Oak Crest Institute of Science, Pasadena, CA, 91107, USA

SOURCE: Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science (2004), 35B(2), 381-392

CODEN: MTBSEO; ISSN: 1073-5615

PUBLISHER: Minerals, Metals & Materials Society

DOCUMENT TYPE: Journal

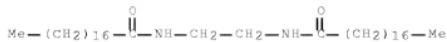
LANGUAGE: English

AB The chemical surrounding the pyrolysis of N,N'-ethylenebisstearamide (EBS) compacted with iron powder is described for the first time. Heat treatment is carried out in a 5 vol pct hydrogen atmospheric (balance nitrogen) over the 100 °C to 850 °C range. The exhaust from the furnace is monitored by Fourier transform IR and dispersive UV absorption spectroscopy; condensable materials are analyzed by gas chromatog./mass spectrometry (GC/MS). A wide range of analytes emitted from the preceding process were characterized. The aliphatic CH stretch in the 3000 to 2700 cm⁻¹ range and the asym. CO stretch in gaseous CO₂ at 2350 cm⁻¹ are excellent indicators of the extent of delubrication. A bimodal CO emission phase is observed in the temperature window between delubrication and sintering. Three major large mol. reaction products, along with five minor compds., are identified by GC/MS. A preliminary reaction mechanism is inferred based on product anal. and known organic chemical. It appears that hydrolysis of EBS competes with γ-H abstraction yielding an N-vinyl amide and stearamide, which undergoes further reaction. Hydrolysis affords stearic acid, which decarboxylates to heptadecane, and 2-heptadecyl-4,5-dihydroimidazole via ring closure of the corresponding amino-amide.

IT 110-30-5, EBS
 (lubricant pyrolysis during sintering of powder metallurgy compacts)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



CC 55-4 (Ferrous Metals and Alloys)

Section cross-reference(s): 79

ST iron powder sintering binder pyrolysis

IT Sintering

Thermal decomposition

(lubricant pyrolysis during sintering of
powder metallurgy compacts)IT 124-38-9, Carbon dioxide, formation (nonpreparative) 504-75-6,
4,5-Dihydroimidazole 629-78-7, Heptadecane 630-08-0, Carbon
monoxide, formation (nonpreparative)
(decomposition product; lubricant pyrolysis during
sintering of powder metallurgy
compacts)IT 110-30-5, EBS
(lubricant pyrolysis during sintering of
powder metallurgy compacts)IT 7439-89-6, Iron, processes
(sintering of; lubricant pyrolysis during
sintering of powder metallurgy
compacts)

RETABLE

Referenced (RAU)	Author	Year	VOL	PG	Referenced Work	Referenced (RWK)	File
			(RPY)	(RVL)	(RPG)		
Auborn, J		1993	12	17	Mechanisms of Lubric		
Bailey, W		1958	123	1996	J Org Chem	HCAPLUS	
Baum, M		2000	134	12851	Environ Sci Technol	HCAPLUS	
Baum, M		2001	135	13735	Environ Sci Technol	HCAPLUS	
Baum, M		2003	174	13104	Rev Sci Instrum	HCAPLUS	
Baumgarten, H		1958	180	14588	J Am Chem Soc	HCAPLUS	
Blake, P		1966	1	1577	J Chem Soc B-Phys Or	HCAPLUS	
Bondarenko, B		1993	132	1461	Powder Metall Met Ce		
Butler, R		1976	1	1386	J Chem Soc-Perkin Tr	HCAPLUS	
Butler, R		1983	1	2197	J Chem Soc-Perkin Tr	HCAPLUS	
Clark, L		1969	1	1589	The Decarboxylation R	HCAPLUS	
Danninger, H		2001	167	149	Mater Chem Phys	HCAPLUS	
Doolan, K		1986	118	1575	Int J Chem Kinet	HCAPLUS	
Ferm, R		1954	154	1593	Chem Rev	HCAPLUS	
Gaskell, D		2003	1	1	Introduction to Ther		
German, R		1996	13	10-13	Thermal Extraction o		
Hu, S		2000	143	1239	Powder Metall	HCAPLUS	
Hwang, K		1992	128	1353	Int J Powder Metall	HCAPLUS	
Liau, L		2000	183	12645	J Am Ceram Soc	HCAPLUS	
Lin-Vien, D		1991	1	1	The Handbook of Infr		
MacColl, A		1973	169	1108	J Chem Soc-Faraday T	HCAPLUS	
MacColl, A		1975	171	12450	J Chem Soc-Faraday T	HCAPLUS	
March, J		1985	1	1346	Advanced Organic Che		
March, J		1963	140	1212	J Chem Ed	HCAPLUS	
Markley, K		1961	12	1187	Hydrogenation, 2nd e		
McGraw, J		1978	14	1277	Int J Powder Metall	HCAPLUS	
Mellqvist, J		1996	156	1209	J Quant Spectrosc Ra	HCAPLUS	
Meyer, R		1969	12	1298	Powder Metall	HCAPLUS	
Nayar, H		1984	17	1340	Production Sintering		
Pitts, J		1984	118	1847	Atmos Environ	HCAPLUS	

Renowden, M	1990	1	1261	Experimental Studies
Riebsomer, J	1948	170	1629	J Am Chem Soc HCAPLUS
Saha, D	2001	1	182	Int Conf on Powder M
Saha, D	2002	138	171	Int J Powder Metall HCAPLUS
Schaffer, M	2000	1C40	1233	J Macromol Sci-Rev M HCAPLUS
Shende, R	2002	185	1780	J Am Ceram Soc HCAPLUS
Sonntag, N	1961	12	1985	Dehydration, Pyrolyz
Sonntag, N	1964	13	1551	Nitrogen Derivatives
Taylor, R	1979	12	1859	Pyrolysis of Acids a
Ward, M	1977	113	197	Int J Powder Metall HCAPLUS
Ward, M	1979	122	193	Powder Metall HCAPLUS
White, G	1996	13	10-27	Monitoring of the De
White, J	1942	132	1285	J Opt Soc Am
Zielinski, M	1969	1	1453	Synthesis and Uses o HCAPLUS
OS.CITING REF COUNT:	2	THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)		

L66 ANSWER 9 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:989746 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:29913
 TITLE: Iron-based powder mixtures with glyceryl stearate
 lubricant for pressed sintering
 preforms
 INVENTOR(S): Ramstedt, Maria; Knutsson, Per
 PATENT ASSIGNEE(S): Swed.
 SOURCE: U.S. Pat. Appl. Publ., 6 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030230166	A1	20031218	US 2002-209085 <--	20020801
TW 565481	B	20031211	TW 2002-91118021 <--	20020809
AT 405363	T	20080915	AT 2003-733737 <--	20030612
ES 2312790	T3	20090301	ES 2003-733737 <--	20030612
PRIORITY APPLN. INFO.:			SE 2002-1826 <--	A 20020614

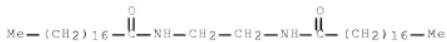
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The Fe-based powder mixts. for sintering contain: (a) atomized Fe-alloy powder, and/or sponge-Fe powder; (b) lubricant based on glyceryl stearate at nominally 0.1-2.0% by weight; and (c) optional graphite and metal-alloying powders. The lubricant mixts. optionally contain 5-95% fatty acids and/or stearate salts. The resulting Fe-based powder mixts. are suitable for pressing of preforms at 400-800 MPa with increased green d. and decreased ejection energy, compared with the conventional lubricant based on ethylene bis- stearamide.

IT 110-30-5, Ethylene bis-stearamide
 (lubricant containing; iron-based powder mixts. with glyceryl
 stearate lubricant for sintering preforms)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM C22C0001-10
 INCL 075252000
 CC 55-4 (Ferrous Metals and Alloys)
 ST iron powder mixt die pressing glyceryl stearate lubricant
 IT Powder metallurgy
 (lubricants for; iron-powder mixts. with glyceryl
 stearate lubricants for pressed sintering
 preforms)
 IT Lubricants
 (powder-metallurgy; iron-powder
 mixts. with glyceryl stearate lubricant for pressed
 sintering preforms)
 IT 110-30-5, Ethylene bis-stearamide
 (lubricant containing; iron-based powder mixts. with glyceryl
 stearate lubricant for sintering preforms)
 IT 555-43-1, Glyceryl tristearate 1323-83-7, Glyceryl distearate
 11099-07-3, Glyceryl stearate 31566-31-1, Glyceryl monostearate
 (lubricant; iron-based powder mixts. with glyceryl
 stearate lubricant for sintering preforms)
 IT 57-11-4, Stearic acid, uses 112-80-1,
 Oleic acid, uses 557-05-1, Zinc stearate
 1592-23-0, Calcium stearate 4485-12-5, Lithium stearate
 (lubricants containing, sintering mixts. with;
 iron-based powder mixts. with glyceryl stearate lubricant
 for sintering preforms)
 IT 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0,
 Nickel, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses
 7723-14-0, Phosphorus, uses 7782-42-5, Graphite, uses
 (powder, sintering mixts. containing; iron-based powder
 mixts. with glyceryl stearate lubricant for
 sintering preforms)
 IT 7439-89-6, Iron, uses
 (powder; iron-based powder mixts. with glyceryl stearate
 lubricant for sintering preforms)

L66 ANSWER 10 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:989745 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:18732
 TITLE: Lubricants for warm compaction of
 atomized stainless steel powders for
 sintering preforms
 INVENTOR(S): Bergkvist, Anders; Dahlberg, Mikael
 PATENT ASSIGNEE(S): Hoeganaes AB, Norway
 SOURCE: U.S. Pat. Appl. Publ., 5 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030230165	A1	20031218	US 2002-207225	20020730

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US 6712873	B2	20040330	10/586,631	
CA 2489489	A1	20031224	CA 2003-2489489	20030613
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WO 2003106077	A1	20031224	WO 2003-SE1001	20030613
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003239021	A1	20031231	AU 2003-239021	20030613
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AU 2003239021	B2	20060907		
BR 2003011794	A	20050315	BR 2003-11794	20030613
<--				
EP 1513639	A1	20050316	EP 2003-733739	20030613
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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1662328	A	20050831	CN 2003-813808	20030613
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CN 1299859	C	20070214		
JP 2005530035	T	20051006	JP 2004-512955	20030613
<--				
RU 2294815	C2	20070310	RU 2005-100785	20030613
<--				
ZA 2004009738	A	20060628	ZA 2004-9738	20041201
<--				
IN 2004CN02788	A	20060210	IN 2004-CN2788	20041209
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MX 2004012570	A	20050419	MX 2004-12570	20041213
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PRIORITY APPLN. INFO.:			SE 2002-1825	A 20020614
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			WO 2003-SE1001	W 20030613
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ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

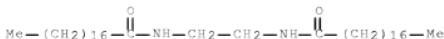
OTHER SOURCE(S): MARPAT 140:18732

AB The water-atomized stainless steel powder containing 10-30% Cr is premixed with 0.8-2.0% lubricant for warm compaction in a die at .apprx.110°. The preforms are typically sintered at 1250-1325°, especially for 15-90 min in a non-oxidizing atmospheric. The lubricant mixture contains waxy base or amide oligomer with \leq 0.4% of O2-affinity compound (especially Li stearate), minor fatty acid at 0.005-0.5%, and flow promoter (especially colloidal SiO2) at 0.005-2%. The typical lubricant mixture contains amide oligomer 1.0, Li stearate 0.2, stearic acid 0.05, and colloidal SiO2 0.1%. The 410-grade stainless steel powder with the lubricant was compacted at 600 MPa to the green d. of 6.83 g/cm3, and sintered in H2 for 45 min at 1250° to the d. of 7.22 g/cm3.

IT 110-30-5, Ethylene bis-stearamide
(lubricants from; lubricants for warm
compaction of atomized stainless steel powders for
sintering)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM C22C0001-05
INCL 075252000
CC 55-4 (Ferrous Metals and Alloys)
ST stainless steel powder blend lubricant warm compaction
sintering; amide oligomer lubricant
stainless steel powder compaction
IT Lubricants
(for stainless steel powders; lubricants for warm
compaction of atomized stainless steel powders for
sintering)
IT Fatty acids, uses
(lubricant containing; lubricants for warm
compaction of atomized stainless steel powders for
sintering)
IT Amides, uses
(oligomers, lubricant from; lubricants for warm
compaction of atomized stainless steel powders for
sintering)
IT Powder metallurgy
(stainless steel; lubricants for warm compaction of
atomized stainless steel powders for sintering)
IT 7631-86-9, Silica, uses
(colloidal, lubricant containing; lubricants for
warm compaction of atomized stainless steel powders for
sintering)
IT 57-11-4, Stearic acid, uses 112-80-1,
Oleic acid, uses 4485-12-5, Lithium stearate
(lubricant containing; lubricants for warm
compaction of atomized stainless steel powders for
sintering)
IT 110-30-5, Ethylene bis-stearamide
(lubricants from; lubricants for warm
compaction of atomized stainless steel powders for
sintering)
IT 12597-68-1, Stainless steel, properties
(powder, compaction of; lubricants for warm compaction of
atomized stainless steel powders for sintering)
IT 11134-23-9 53597-63-0 57687-68-0, 434L 154763-25-4, 409Nb
(powder, for sintering; lubricants for warm
compaction of atomized stainless steel powders for
sintering)
IT 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0,
Nickel, uses 7440-03-1, Niobium, uses 7440-21-3, Silicon, uses
7440-32-6, Titanium, uses 7440-62-2, Vanadium, uses
(stainless steel powders containing; lubricants for warm
compaction of atomized stainless steel powders for
sintering)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

ACCESSION NUMBER: 2003:610350 HCPLUS Full-text
 DOCUMENT NUMBER: 139:167798
 TITLE: Powder lubricants with polyalkylene block copolymer for pressing of powder-metallurgy preforms for sintered articles
 INVENTOR(S): Luk, Sydney; Poszmik, George
 PATENT ASSIGNEE(S): Hoeganaes Corporation, USA
 SOURCE: PCT Int. Appl., 29 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003064082	A1	20030807	WO 2003-US1641 <--	20030117
W: CA, KR RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
US 20030161752	A1	20030828	US 2002-57353 <--	20020125
US 6689188	B2	20040210		
CA 2474253	A1	20030807	CA 2003-2474253 <--	20030117
CA 2474253	C	20090915		
EP 1476264	A1	20041117	EP 2003-703907 <--	20030117
EP 1476264	B1	20080604		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK				
AT 397506	T	20080615	AT 2003-703907 <--	20030117
KR 861988	B1	20081007	KR 2004-710495 <--	20040702
PRIORITY APPLN. INFO.:			US 2002-57353 <--	A 20020125
			WO 2003-US1641 <--	W 20030117

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The powder-metallurgical mixts. for pressing of preforms with decreased sliding and ejection pressure contain: (a) 280% of metal and/or alloy powders; and (b) 0.01-5% of lubricant powder based on polyalkylene block copolymer with linear or branched C5-500 chains. The lubricant powders contain polyalkylene-polyalkylene oxide block copolymer having the A-B or A-B-A structure, and can be used with optional addition of other lubricants. The typical lubricant is prepared from polyethylene block copolymer with polyethylene oxide, mixed with 30% of stearic acid for 6 h at 175°, atomized for powder manufacture, and cooled. The lubricant powder was suitable for die pressing of Fe-powder mixture at 50 tons/in.², and sintering the preforms for 30 min in dissociated NH₃ atmospheric at 1120°.

IT 110-30-5, Ethylene bis-stearamide
 (lubricants with, from block copolymers; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0001-00
 CC 56-4 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 38
 ST metal powder pressing die lubricant polyalkylene block copolymer; polyethylene block copolymer lubricant iron powder pressing sintering
 IT Polyoxalkylenes, uses
 (block copolymers with, lubricants from; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)
 IT Lubricants
 (copolymer-based; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)
 IT Polyolefins
 Polyoxalkylenes, uses
 (copolymers with, for lubricants; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)
 IT Powder metallurgy
 (lubricants in; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)
 IT 9002-88-4, Polyethylene 25322-68-3, Polyethylene oxide (block copolymers with, lubricants from; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)
 IT 57-11-4, Stearic acid, uses 110-30-5,
 Ethylene bis-stearamide
 (lubricants with, from block copolymers; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)
 IT 7439-89-6, Iron, uses 12597-69-2, Steel, uses
 (powder, lubricants for die pressing of; powder lubricants with polyalkylene block copolymer for powder-metallurgy preforms)

Referenced	Author	Year	VOL	PG	Referenced Work	Referenced
(RAU)		(R/PY)	(RVL)	(RPG)	(RWK)	File
Lindenau		2001	1		US 6224823 B1	HCAPLUS
Luk		1996	1		US 5538684 A	HCAPLUS
Luk		2000	1		US 6126715 A	
Mattheews		1997	1		US 5637132 A	HCAPLUS
Semel		2000	1		US 6068813 A	
Yamashita		2001	1		US 6187259 B1	HCAPLUS

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

INVENTOR(S): internal combustion engine
 Wang, Yushu; Narasimhan, Sundaram L.; Rodrigues, Heron A.
 PATENT ASSIGNEE(S): Eaton Corporation, USA
 SOURCE: U.S. Pat. Appl. Publ., 9 pp.
 CODEN: USXKCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003061905	A1	20030403	US 2001-969716 <--	20011002
US 6599345	B2	20030729		
EP 1300481	A2	20030409	EP 2002-21850 <--	20020929
EP 1300481	A3	20030514		
EP 1300481	B1	20060125		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
JP 2003183701	A	20030703	JP 2002-288578 <--	20021001
JP 3848233	B2	20061122		
JP 2006307347	A	20061109	JP 2006-170473 <--	20060620
JP 2006342429	A	20061221	JP 2006-170477 <--	20060620
PRIORITY APPLN. INFO.:			US 2001-969716 <--	A 20011002
			JP 2002-288578 <--	A3 20021001

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A powder metal blend for a powder metal part, especially a valve guide for an internal combustion engine suited for operation where there is little or no engine oil lubricant at the valve stem and valve guide interface. The powder metal blend contains Cu 2-10, solid lubricant 0.5-5.0, Gra 1-3, bronze 1-8, CuP 0.2-1.5, and/or FeP 0.2-1.5, fugitive lubricant 0.3-1.0, with the balance a low alloy steel powder containing Mn 0.3-1.0%.

IT 110-30-5, Acrawax C 124-26-5, Staaramide
(fugitive lubricant; powdered metal blend containing a solid lubricant for use as a valve guide in an internal combustion engine)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCPLUS
 CN Octadecanamide (CA INDEX NAME)



ICM B22F0001-00
INCL 075252000; 075255000
CC 55-4 (Ferrous Metals and Alloys)
ST iron base powder compn solid lubricant valve combustion
engine
IT Waxes
(fugitive lubricant; powdered metal blend containing a solid
lubricant for use as a valve guide in an internal
combustion engine)
IT Abrasion-resistant materials
Composition
Internal combustion engines
Lubricants
Powder metallurgy
(powdered metal blend containing a solid lubricant for
use as a valve guide in an internal combustion engine)
IT Mica-group minerals, properties
(solid lubricant; powdered metal blend containing a solid
lubricant for use as a valve guide in an internal
combustion engine)
IT Lubricants
(solid; powdered metal blend containing a solid lubricant for
use as a valve guide in an internal combustion engine)
IT Engines
(valves; powdered metal blend containing a solid lubricant for
use as a valve guide in an internal combustion engine)
IT 57-11-4, Stearic acid, uses
(derivs., fugitive lubricant; powdered metal blend containing a
solid lubricant for use as a valve guide in an internal
combustion engine)
IT 110-30-5, Acrawax C 124-26-5, Stearamide
557-05-1, Zinc stearate 4485-12-5, Lithium stearate
(fugitive lubricant; powdered metal blend containing a solid
lubricant for use as a valve guide in an internal
combustion engine)
IT 7439-96-5, Manganese, properties
(iron powder containing; powdered metal blend containing a solid
lubricant for use as a valve guide in an internal
combustion engine)
IT 12517-41-8, Copper phosphide (CuP) 12597-70-5, Bronze 26508-33-8,
Iron phosphide (FeP)
(powdered metal blend containing a solid lubricant for use as a
valve guide in an internal combustion engine)
IT 1317-33-5, Molybdenum sulfide (MoS₂), properties 7782-42-5,
Graphite, properties 7789-75-5, Calcium fluoride, properties
12138-09-9, Tungsten sulfide 12627-13-3, Silicate 14807-96-6,
Talc, properties 16984-48-8, Fluoride, properties 18496-25-8,
Sulfide 18820-29-6, Manganese sulfide (MnS) 22541-49-7, Telluride
(solid lubricant; powdered metal blend containing a solid
lubricant for use as a valve guide in an internal
combustion engine)
IT 503415-62-1 503415-63-2
(valve guide; powdered metal blend containing a solid lubricant
for use as a valve guide in an internal combustion engine)

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L66 ANSWER 13 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2003:154892 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:173870
 TITLE: Manufacture of sintered metal parts
 using induction heating of powder preforms
 INVENTOR(S): Kosco, John C.; Newman, Keith E.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 8 pp.
 CODEN: USXKCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20030039572	A1	20030227	US 2001-887287	20010622

PRIORITY APPLN. INFO.: US 2001-887287 20010622
 <--

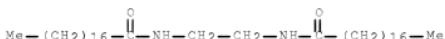
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The metal powder mixts. containing $\leq 0.3\%$ lubricant are pressed in a die at nominally 10-70 tons/in.2, and the resulting green preforms are sintered by induction heating with optional hot forming. The process is suitable for sintering of Fe-powder blends containing graphite 0-3, Ni 0-12, Mo 0-3, Cu 0-10, Mn 0-2, and Cr 0-20%, especially by induction heating the green preforms to 1900-2500° F. The sintered articles are optionally finished by hot pressing at 20-90 tons/in.2 and 200-800° F for densification. The process is suitable for manufacture of sintered steel gears, bushings, and similar machinery parts.

IT 110-30-5, Ethylene bis-stearamide
 (lubricant, sintering powder mixts. with low;
 sintered steel parts manufactured by induction heating of powder
 preforms pressed in dies)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0003-24

INCL 419028000

CC 55-4 (Ferrous Metals and Alloys)

ST iron alloying powder blend preform induction heating sintering
 ; steel powder preform sintering induction heating hot
 pressing

IT Sintering
 (induction heating for; sintered metal parts manufactured by
 induction heating of powder preforms pressed in dies)

IT Heating
 (induction, sintering by; sintered metal parts
 manufactured by induction heating of powder preforms pressed in dies)

IT Powder metallurgy

(sintered metal parts manufactured by induction heating of powder preforms pressed in dies)

IT Bushings
Gears
(sintered, by induction heating; sintered metal parts manufactured by induction heating of powder preforms pressed in dies)

IT 57-11-4, Stearic acid, uses 110-30-5, Ethylene bis-stearamide 557-05-1, Zinc stearate (lubricant, sintering powder mixts. with low; sintered steel parts manufactured by induction heating of powder preforms pressed in dies)

IT 7439-89-6, Iron, uses 7439-96-5, Manganese, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7782-42-5, Graphite, uses 54801-72-8, uses (powder, sintering of mixts. containing; sintered steel parts manufactured by induction heating of powder preforms pressed in dies)

IT 12597-69-2, Steel, processes
(sintering of; sintered metal parts manufactured by induction heating of powder preforms pressed in dies)

L66 ANSWER 14 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:154317 HCPLUS Full-text

DOCUMENT NUMBER: 138:191558

TITLE: Liquid-forming lubricants for die pressing of sintering preforms from metal powders

INVENTOR(S): Hammond, Dennis L.

PATENT ASSIGNEE(S): Apex Advanced Technologies, LLC, USA

SOURCE: PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003015962	A1	20030227	WO 2002-US25622	20020813
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR				
CA 2454000				
CA 2454000	A1	20030227	CA 2002-2454000	20020813
<--				
AU 2002326618	A1	20030303	AU 2002-326618	20020813
<--				
EP 1417064	A1	20040512	EP 2002-761342	20020813
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
PRIORITY APPLN. INFO.:			US 2001-312310P	P 20010814
<--				
		WO 2002-US25622		W 20020813

<--

AB The improved lubricants for use in die pressing of metal-powder preforms for sintering are added as powders, but are liquefied under pressure for lubrication of die walls. The lubricants are added at nominally 0.10-0.50%, and contain fatty acids, guanidine derivs. (especially guanidine stearate), and optionally amide wax and/or petroleum wax. The typical lubricant mixture finished by cryogenic milling contains lauric acid 10, tech. stearic acid 10, com. wax (Acrawax C) 50, guanidine stearate 13.5, and guanidine Et hexanate 16.5%, and is manufactured as powder of 10-25 μm size. The lubricant powder was added at 0.20% to stainless steel powder 409CS for pressing at 30-48 tons/in.2 followed by sintering for 30 min at 2450° F in H2-30% N2 atmospheric. The resulting green d. and sintered d. were comparable to those from the 409CS powder with 0.75% Acrawax C as conventional lubricant.

IT 110-30-5, Acrawax C
(lubricants with, for metal powders; liquid-forming lubricants for die pressing of sintering preforms from metal powders)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0001-00
ICS B22F0003-12; C10M0101-00; C10M0105-34; C10M0105-38

CC 56-4 (Nonferrous Metals and Alloys)

ST metal powder die pressing lubricant mixt liquefaction;
fatty acid lubricant liquefaction
stainless steel powder pressing

IT Fatty acids, uses
Waxes
(lubricants with, for metal powders; liquid-forming lubricants for die pressing of sintering preforms from metal powders)

IT Powder metallurgy
(lubricants; liquid-forming lubricants for die pressing of sintering preforms from metal powders)

IT Lubricants
(powders; liquid-forming lubricants for die pressing of sintering preforms from metal powders)

IT 57-10-3, Palmitic acid, uses 57-11-4,
Stearic acid, uses 110-30-5, Acrawax C
113-00-8D, Guanidine, derivs. 123-95-5, Butyl stearate 143-07-7,
Lauric acid, uses 4485-12-5, Lithium stearate
26739-53-7, Guanidine stearate 31566-31-1, Glycerol monostearate
(lubricants with, for metal powders; liquid-forming lubricants for die pressing of sintering preforms from metal powders)

IT 12597-70-5, Bronze 12611-86-8 12792-49-3, processes 39418-83-2
(powder, lubricants for pressing of; liquid-forming lubricants for die pressing of sintering preforms from metal powders)

RETABLE

Referenced Author		Year		VOL		PG		Referenced Work		Referenced
(RAU)		(R PY)		(RVL)		(RPG)		(RWK)		File

Donaldson |2001 | | US 6203753 B1 |
 Rutz |1992 | | US 5154881 A |HCAPLUS
 Storstrom |1998 | | US 5744433 A |HCAPLUS
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPIPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L66 ANSWER 15 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2002:960304 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:43000
 TITLE: Manufacture of sintered articles having
 good sliding property by powder
 metallurgy
 INVENTOR(S): Iwakiri, Makoto; Sugaya, Yoshimi; Yomo, Hideo
 PATENT ASSIGNEE(S): Hitachi Funmatsu Yakin Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002363616	A	20021218	JP 2001-176522 ----- JP 2001-176522	20010612 ----- 20010612

PRIORITY APPLN. INFO.:

 AB The process comprises: forming pre-pressed powder having lower d. than that of
 the target molding powder, adhering particle A or mixture B on inner or outer
 surfaces of the pre-pressed powder, filling in a mold, press-molding to target
 d. to form the pressed powder, and sintering, where A is CD and/or GCD
 particles, and B is a mixture of molding lubricant and the CD and/or GCD
 particles (CD is diamond particle cluster having size $\leq 200 \text{ \AA}$, and GCD is
 graphite-coated diamond particle cluster). The process is suitable for
 lubricating bearings, etc.
 IC ICM B22F0007-00
 ICS B22F0003-02; B22F0003-24; B22F0007-06; F16C0033-12; F16H0053-02;
 F16H0055-06
 CC 56-4 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 57
 ST sintered article sliding property powder
 metallurgy
 IT Waxes
 (fatty acid amide-type wax,
 lubricant; for manufacture of sintered articles having
 good sliding property by powder metallurgy)
 IT Fatty acids, uses
 (lubricant; for manufacture of sintered articles
 having good sliding property by powder metallurgy
)
 IT Powder metallurgy
 (manufacture of sintered articles having good sliding property
 by powder metallurgy)
 IT Bearings
 (manufacture of sintered articles having good sliding property
 by powder metallurgy for)
 IT Machinery parts
 (sliding; manufacture of sintered articles having good sliding
 property by powder metallurgy)
 IT 7782-42-5, Graphite, processes

(diamond clusters coated with; manufacture of sintered articles having good sliding property by powder metallurgy)

IT 9002-88-4
 (lubricant; for manufacture of sintered articles having good sliding property by powder metallurgy
)

IT 7782-40-3, Diamond, processes
 (manufacture of sintered articles having good sliding property by powder metallurgy)

L66 ANSWER 16 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2002:814022 HCAPLUS Full-text

DOCUMENT NUMBER: 137:327245
 TITLE: Fatty acid amide
 -terminated oligomeric polyamides as metalworking lubricants for warm powder compaction of iron alloys

INVENTOR(S): Johansson, Bjoern
 PATENT ASSIGNEE(S): Hoeganaes AB, Swed.
 SOURCE: PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002083346	A1	20021024	WO 2002-SE763	20020417 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MN, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 20020178863	A1	20021205	US 2001-852016	20010510 <--
TW 235183	B	20050701	TW 2001-90111713	20010516 <--
AU 2002255409	A1	20021028	AU 2002-255409	20020417 <--
EP 1387730	A1	20040211	EP 2002-724846	20020417 <--
EP 1387730	B1	20050817		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1503707	A	20040609	CN 2002-808417	20020417 <--
CN 1250684	C	20060412		
AT 302081	T	20050915	AT 2002-724846	20020417 <--
ES 2248547	T3	20060316	ES 2002-724846	20020417 <--
JP 4126230	B2	20080730	JP 2002-581133	20020417

US 20030075017	A1	20030424	US 2002-201954	<-- 20020725
US 6872235	B2	20050329	SE 2001-1343	<-- A 20010417
PRIORITY APPLN. INFO.:			US 2001-852016	<-- A2 20010510
			WO 2002-SE763	<-- W 20020417

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 137:327245

AB A metalworking powdered lubricant for warm compaction of metal (iron-based) powders contains at least one oligomeric amide, a fatty acid, and, optionally one or more additives (e.g., binders, flow enhancers, processing aids, and hard phases). The oligomeric amide is described by general formula D-Cma-B-A-B-Cmb-D (I), in which D = H, -COR, -CNHR (R = C2-21-aliphatic or aromatic); C = -NH-(CH₂)_n-CO-; B = -NH- or -CO-; A = C4-16-alkylene that can include up to 4 oxygen (-O-) atoms; ma, mb = 1-10; n = 5-11. Preferred lubricants are di(amide -terminated) oligomeric polyamides, I (D = RC(:O)- (R = C16-20-aliphatic); C = -NH-(CH₂)_n-C(:O)- (n = 5 or 11); B = -NH-; A = C6-14-alkylene, with up to 3 oxygen (-O-) atoms; ma and mb = 2-5). Suitable fatty acids are oleic acid, stearic acid, and palmitic acid.

IT 24936-74-1, Orgasol 3501
(fatty acid amide-terminated
oligomeric polyamides as metalworking lubricants
for warm powder compaction of iron alloys)

RN 24936-74-1 HCAPLUS

CN Poly[imino-1,6-hexanediylimino(1,12-dioxo-1,12-dodecanediyl)] (CA
INDEX NAME)

IC ICM B22F0003-00
ICS C10M0105-68; C10M0171-06

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 38, 55

ST oligomeric polyamide metalworking lubricant iron
powder warm compaction

IT Powder metallurgy
(compaction, warm compaction; fatty acid
amide-terminated oligomeric polyamides as
metalworking lubricants for warm powder compaction of
iron alloys)

IT Polyamides, uses
(fatty acyl-terminated; fatty acid
amide-terminated oligomeric polyamides as
metalworking lubricants for warm powder compaction of
iron alloys)

IT Fatty acids, uses
(lubricants containing; fatty acid
amide-terminated oligomeric polyamides as
metalworking lubricants for warm powder compaction of
iron alloys)

IT Lubricants

(solid, metalworking; fatty acid amide-terminated oligomeric polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 9015-12-7, Cellulose butyrate
(binder; fatty acid amide-terminated oligomeric polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 7631-86-9, Aerosil 200, uses
(colloidal, Aerosil 200, flow enhancer; fatty acid amide-terminated oligomeric polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 7782-42-5, Graphite, uses 24936-74-1, Orgasol 3501
(fatty acid amide-terminated oligomeric polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 57-10-3, Palmitic acid, uses 57-11-4,
Stearic acid, uses 112-80-1, Oleic acid, uses
(lubricants containing; fatty acid amide-terminated oligomeric polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 64216-44-0, Distaloy AE
(warm compaction of; fatty acid amide-terminated oligomeric polyamides as metalworking lubricants for warm powder compaction of iron alloys)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R V L)	PG (R PG)	Referenced Work (R WK)	Referenced File
Hitachi Powdered Metals	1992			JP 4136104	
Luk	1994			US 5368630 A	HCAPLUS
Ogura	1995			US 5476534 A	HCAPLUS
Storstrom	1998			US 5744433 A	HCAPLUS
Uenosono	1999			US 5976215 A	HCAPLUS

L66 ANSWER 17 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:814021 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 137:327244

TITLE: Oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys

INVENTOR(S): Vidarsson, Hilmar; Knutsson, Per

PATENT ASSIGNEE(S): Hoeganaes AB, Swed.

SOURCE: PCT Int. Appl., 18 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002083345	A1	20021024	WO 2002-SE762	20020417

<--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
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CA 2443481	C	20070313		
AU 2002253770	A1	20021028	AU 2002-253770 <--	20020417
AU 2002253770	B2	20040527		
EP 1390171	A1	20040225	EP 2002-723031 <--	20020417
EP 1390171	B1	20041110		
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BR 2002008914	A	20040420	BR 2002-8914 <--	20020417
CN 1503706	A	20040609	CN 2002-808354 <--	20020417
CN 1265920	C	20060726		
JP 2004524449	T	20040812	JP 2002-581132 <--	20020417
JP 3908167	B2	20070425		
AT 281899	T	20041115	AT 2002-723031 <--	20020417
ES 2229129	T3	20050416	ES 2002-723031 <--	20020417
RU 2288072	C2	20061127	RU 2003-133290 <--	20020417
US 20030094075	A1	20030522	US 2002-201974 <--	20020725
US 6755885	B2	20040629		
ZA 2003007072	A	20040910	ZA 2003-7072 <--	20030910
MX 2003009487	A	20040212	MX 2003-9487 <--	20031016
IN 2003CN01645	A	20051125	IN 2003-CN1645 <--	20031016
KR 838925	B1	20080616	KR 2003-713547 <--	20031016
PRIORITY APPLN. INFO.:			SE 2001-1344 <--	A 20010417
			US 2001-852024 <--	A2 20010510
			WO 2002-SE762 <--	W 20020417

OTHER SOURCE(S): MARPAT 137:327244

AB A metalworking powdered lubricant for warm compaction of metal (iron-based) powders is described by general formula D-Cma-B-A-B-Cmb-D (I), in which D = H, -COR, -CNHR (R = C2-21-aliphatic or aromatic); C = -NH-(CH₂)_n-CO-; B = -NH- or -CO-; A = C4-16-alkylene that can include up to 4 oxygen (-O-) atoms; ma, mb = 1-10; n = 5-11. Preferred lubricants are di(amide-terminated) oligomeric polyamides of formula I (D = RC(:O)- (R = C16-20-aliphatic); C = -NH-(CH₂)_n-CO-

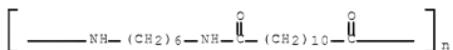
C(:O)- (n = 5 or 11); B = -NH-; A = C6-14-alkylene, with up to 3 oxygen (-O-) atoms; ma and mb = 2-5). Specific lubricants are: CH3(CH2)16C(:O)-[HN(CH2)11CO-]a-HN(CH2)12-NH-[OC(CH2)11-NH]b-(O-)C(CH2)16CH3, in which a = 2-5 and b = 2,5. The compacted metal powder compns. (e.g., Distaloy AE with the lubricant and an optional flow enhancer, such as Aerosil 200) are sintered at >1050° to form the sintered product.

IT 24936-74-1, Orgasol 3501

(lubricant; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

RN 24936-74-1 HCPLUS

CN Poly[imino-1,6-hexanediylimino(1,12-dioxo-1,12-dodecanediyl)] (CA INDEX NAME)



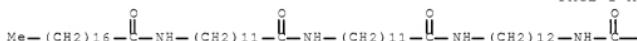
IT 473714-30-6 473714-31-7 473714-32-8
473714-33-9 473714-34-0 473714-35-1
473714-36-2

(lubricants; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

RN 473714-30-6 HCPLUS

CN Octadecanamide, N,N'-(12,25,40,53-tetraoxo-13,26,39,52-tetraazatetrahexacontane-1,64-diyl)bis- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RN 473714-31-7 HCPLUS

CN Octadecanamide, N,N'-(12,25,40,53,66-pentaoxo-13,26,39,52,65-pentaazaheptaheptacontane-1,77-diyl)bis- (9CI) (CA INDEX NAME)

PAGE 1-A



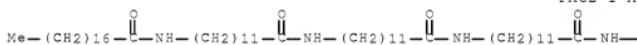
PAGE 1-B



RN 473714-32-8 HCAPLUS

CN Octadecanamide, N,N'-(12,25,38,53,66,79-hexaoxo-13,26,39,52,65,78-hexaazanonacontane-1,90-diyl)bis- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



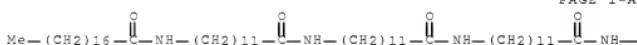
PAGE 1-C



RN 473714-33-9 HCAPLUS

CN 2,15,28,41-Tetraazatripentacantanamide, 1-heptadecyl-1,14,27,40-tetraoxo-N-(14,27,40,53-tetraoxo-13,26,39,52-tetraazaheptacont-1-yl)- (CA INDEX NAME)

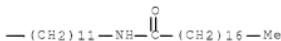
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PAGE 1-B

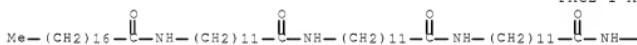


PAGE 1-C



RN 473714-34-0 HCPLUS
 CN 2,15,28,41-Tetraazatripentacantanamide,
 1-heptadecyl-1,14,27,40-tetraoxo-N-(14,27,40,53,66-pentaoxo-
 13,26,39,52,65-pentaaazatrioctacont-1-yl)- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

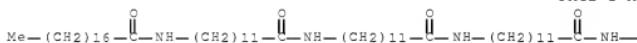


PAGE 1-C



RN 473714-35-1 HCPLUS
 CN 13,26,39,52,65-Pentaaazatrioctacontanamide,
 14,27,40,53,66-pentaoxo-N-(14,27,40,53,66-pentaoxo-13,26,39,52,65-
 pentaaazatrioctacont-1-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



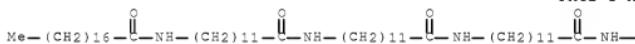
PAGE 1-C



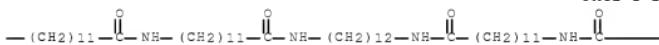
RN 473714-36-2 HCPLUS

CN 13,26,39,52,65-Pentaazatrioctacontanamide,
N,N'-1,12-dodecanediylbis[14,27,40,53,66-pentaoxo- (9CI) (CA INDEX
NAME)

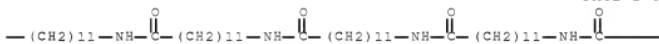
PAGE 1-A



PAGE 1-B



PAGE 1-C



PAGE 1-D



IC ICM B22F0003-00

ICS C10M0105-68; C10M0171-06

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

Section cross-reference(s): 38, 55

ST oligomeric polyamide metalworking lubricant iron
powder warm compaction

IT Polyamides, uses

(amine-initiated fatty acyl-terminated, oligomeric,
lubricants; oligomeric diamine-initiated fatty
acid amide-terminated polyamides as
metalworking lubricants for warm powder compaction of
iron alloys)

IT Powder metallurgy
(compaction, warm compaction; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT Lubricants
(solid, metalworking; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 7631-86-9, Aerosil 200, uses
(colloidal, Aerosil 200, flow enhancer; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 24936-74-1, Orgasol 3501
(lubricant; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 7782-42-5, Graphite, uses
(lubricant; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 473714-30-6 473714-31-7 473714-32-8
473714-33-9 473714-34-0 473714-35-1
473714-36-2
(lubricants; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

IT 64216-44-0, Distaloy AE
(powdered; oligomeric diamine-initiated fatty acid amide-terminated polyamides as metalworking lubricants for warm powder compaction of iron alloys)

RETABLE

Referenced	Author	Year	VOL	PG	Referenced Work	Referenced
(RAU)		(R PY)	(R VL)	(R PG)	(R WK)	File
Hitachi Powdered Metals		1992			JP 4136104	
Storstrom		1998			US 5744433 A	HCAPLUS
Sydney, L		1994			US 5368630 A	HCAPLUS
OS.CITING REF COUNT:		1	THERE ARE 1 CAPIUS RECORDS THAT CITE THIS RECORD (1 CITINGS)			

L66 ANSWER 18 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2002:404937 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 136:404937
 TITLE: Iron-based mixed powder for
 powder metallurgy and its use in
 sintered iron alloy with good
 machinability
 INVENTOR(S): Uenosono, Satoshi; Ota, Junichi; Sonobe, Akio
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002155301	A	20020531	JP 2000-350798	20001117 <--
JP 3873609	B2	20070124	JP 2000-350798	20001117 <--

PRIORITY APPLN. INFO.:

AB The mixed powder contains (a) Fe-based powder, (b) graphite-containing powder for alloy, (c) 0.1-0.7% (based on total of a, b, and c) a machinability improver of alkaline earth metal fluoride powder, (d) a binder, and (e) a free-state lubricant, wherein the graphite powder and the machinability improver powder are fixed on the Fe-based powder with the binder. The sintered Fe alloy is obtained by press-forming the mixed powder and sintering the formed article. Since the machinability improver does not contain conventional S, S-derived furnace pollution and defect on the sintered alloy are prevented.

IT 110-30-5, Ethylenebisstearic acid amide

124-26-5, Stearic acid amide

301-02-0, Oleic acid amide

(binder or lubricant, mixed powder component; Fe-based mixed powder for sintered alloy with good machinability)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS

CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS

CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0001-02

ICS B22F0001-00; B22F0003-10

CC 55-4 (Ferrous Metals and Alloys)

ST iron powder mixt sintered alloy machinability improver; alk

- earth fluoride machinability improver sintered alloy;
graphite iron powder binder lubricant sintering
alloy
- IT Powder metallurgy
(Fe-based mixed powder for sintered alloy with good
machinability)
- IT Machining
(improver for; Fe-based mixed powder for sintered alloy
with good machinability)
- IT Alkaline earth fluorides
(machinability improver; Fe-based mixed powder for sintered
alloy with good machinability)
- IT Binders
Lubricants
(mixed powder component; Fe-based mixed powder for sintered
alloy with good machinability)
- IT Lubricating oils
(spindle oils, binder, mixed powder component; Fe-based mixed
powder for sintered alloy with good machinability)
- IT Lubricating oils
(turbine, binder, mixed powder component; Fe-based mixed powder for
sintered alloy with good machinability)
- IT 57-11-4, Stearic acid, uses 110-30-5,
Ethylenebisstearic acid amide 124-26-5,
Stearic acid amide 301-02-0,
Oleic acid amide 557-05-1, Zinc stearate
(binder or lubricant, mixed powder component; Fe-based
mixed powder for sintered alloy with good machinability)
- IT 112-80-1, Oleic acid, uses
(binder, mixed powder component; Fe-based mixed powder for
sintered alloy with good machinability)
- IT 4485-12-5, Lithium stearate 9002-88-4, Polyethylene 9003-54-7,
Acrylonitrile-styrene copolymer 9011-14-7, Poly(methyl methacrylate)
25213-39-2, Butyl methacrylate-styrene copolymer 25232-40-0,
Butadiene-methyl methacrylate copolymer 25608-33-7, Butyl
methacrylate-methyl methacrylate copolymer 111768-67-3, Butyl
acrylate-methyl methacrylate graft copolymer 130931-90-7, Ethyl
acrylate-styrene graft copolymer
(lubricant, mixed powder component; Fe-based mixed powder
for sintered alloy with good machinability)
- IT 7783-40-6, Magnesium fluoride 7783-48-4, Strontium fluoride
7787-32-8, Barium fluoride 7789-75-5, Calcium fluoride, uses
(machinability improver; Fe-based mixed powder for sintered
alloy with good machinability)
- IT 7439-89-6, Iron, uses 7440-50-8, Copper, uses 7782-42-5, Graphite,
uses 429675-59-2, KIP 301A
(mixed powder component; Fe-based mixed powder for sintered
alloy with good machinability)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

L66 ANSWER 19 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2002:272812 HCAPLUS Full-text
 DOCUMENT NUMBER: 1361:282486
 TITLE: Iron-based powder blends with a lubricant
and binder for pressed preforms in manufacture of
sintered steel articles
 INVENTOR(S): Uenosono, Satoshi; Ozaki, Yukiko
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: Eur. Pat. Appl., 26 pp.

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1195213	A1	20020410	EP 2001-116482 <--	20010706
EP 1195213	B1	20030625		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 20020108468	A1	20020815	US 2001-897395 <--	20010703
US 6464751	B2	20021015		
CA 2352116	A1	20020406	CA 2001-2352116 <--	20010704
CN 1360080	A	20020724	CN 2001-143176 <--	20010706
CN 1276112	C	20060920		
JP 2002180103	A	20020626	JP 2001-298216 <--	20010927
JP 3700634	B2	20050928		
PRIORITY APPLN. INFO.:			JP 2000-307802 <--	A 20001006

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

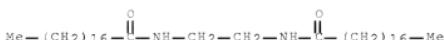
AB The Fe-based powder blends contain: (a) atomized and optionally reduced Fe powder base; (b) alloying metal powders; (c) temporary binder based on thermoplastic resin; (d) die-pressing organic lubricant and optional oil addition; and (e) optional additive for machinability of sintered article. The powder blends have pack d. ≥ 3.1 g/cm³, and controlled particle size distribution for die filling and compressibility without segregation. The Fe-powder particle size distribution is controlled for $\leq 18.5\%$ at <45 μ m, 46% in the 75-150 μ m size range, and $<10\%$ in the 150-180 μ m range with 180 μ m as the maximum size. The typical powder blend contains atomized Fe powder 70, reduction Fe powder 30, oleamide binder 0.20, stearamide binder 0.10, thermoplastic resin lubricant 0.10, and Li stearate lubricant 0.10 weight parts. The die-pressed preforms showed the green d. of 6.85 g/cm³, with a low segregation of graphite powder added for manufacture of sintered steel.

IT 110-30-5, Ethylene bis(stearamide)
124-26-5, Stearamide 301-02-0,

Oleamide
(lubricants with; iron-based powder blends with
lubricant and binder for preforms for sintered
steel)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCPLUS

CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS
CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



ICM B22F0001-00
ICS C22C0033-02
CC 55-4 (Ferrous Metals and Alloys)
ST iron powder blend binder lubricant pressing preform;
sintered steel manuf iron powder blend preform
IT Powder metallurgy
(for sintered steel; iron-based powder blends with
lubricant and binder for preforms for sintered
steel)
IT Lubricating oils
(lubricants with; iron-based powder blends with
lubricant and binder for preforms for sintered
steel)
IT Lubricants
(powder-pressing; iron-based powder blends with lubricant
and binder for preforms for sintered steel)
IT Plastics, uses
(thermosetting, binders; iron-based powder blends with
lubricant and binder for preforms for sintered
steel)
IT 97-88-1, n-Butyl methacrylate 100-42-5, Styrene, uses 107-13-1,
Acrylonitrile, uses 140-88-5, Ethyl acrylate 9011-14-7, Polymethyl
methacrylate
(binders with; iron-based powder blends with lubricant
and binder for preforms for sintered steel)
IT 57-11-4, Stearic acid, uses 110-30-5,
Ethylene bis(stearamide) 112-80-1, Oleic
acid, uses 124-26-5, Stearamide
301-02-0, Oleamide 557-05-1, Zinc stearate
4485-12-5, Lithium stearate 9002-88-4, Polyethylene
(lubricants with; iron-based powder blends with
lubricant and binder for preforms for sintered
steel)
IT 7439-89-6, Iron, uses
(powders, preforms from; iron-based powder blends with
lubricant and binder for preforms for sintered
steel)
IT 12597-69-2, Steel, uses
(sintered, powder preforms for; iron-based powder blends
with lubricant and binder for preforms for

sintered steel)

RETABLE

Referenced Author (RAU)	Year	VOL	PG	Referenced Work (RPG)	Referenced (RWK)	File
	(RPY)	(RVL)	(RPG)			
Anon	1994	1018	M-1588	PATENT ABSTRACTS OF		
Kobe Steel Ltd	1994	1		JP 06002007 A		HCAPLUS
Luk Sydney	1995	1		US 5429792 A		HCAPLUS
OS.CITING REF COUNT:	1			THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)		

L66 ANSWER 20 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2002:180964 HCAPLUS Full-text

DOCUMENT NUMBER: 136:220337

TITLE: Agglomeration of powders for manufacture of
rounded green pellets having increased bulk
flowability

INVENTOR(S): Keyes, John W.

PATENT ASSIGNEE(S): Windfall Products, USA

SOURCE: U.S., 5 pp.

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6355207	B1	20020312	US 2000-579293 -->	20000525

PRIORITY APPLN. INFO.: US 2000-579293 20000525
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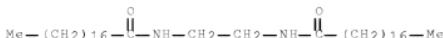
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The rounded pellets are manufactured from powders by: (a) mixing the powder with organic material as a binder and lubricant; (b) heating the mixture above the m.p. of the organic material without vaporizing loss; and (c) rapidly cooling the hot mixture below the binder softening point, and simultaneously forming the rounded pellets from the cooling mixture. The associated resolidification improves the bonding of the powder particles. The process is suitable for the powdered metal, alloy, ceramic, glass, plastic, rubber, or composite. The organic binders are selected from a liquid and/or solid fatty acids, amides, soaps (or salts) of fatty acids, waxes, resins, oils, hydrogenated fats and oils, polymers, mold release, or friction-reducing agents. The pelletized feed can be poured into a die for molding, and the molded preforms can be ejected and heated to burn off the binder before sintering.

IT 110-30-5, Acrawax C
(binder, pelletizing mixture with; powder agglomeration for manufacture of
rounded green pellets having increased flowability)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



INCL 419010000

CC 56-4 (Nonferrous Metals and Alloys)

Section cross-reference(s): 57

ST powder mixt org binder heating pelletizing; sintering
preform pressing agglomerated powder feed

IT Powder metallurgy

(green pellets in; powder agglomeration for manufacture of rounded green
pellets having increased flowability)

IT Lubricants

(powders with; powder agglomeration for manufacture of rounded green
pellets having increased flowability)

IT 110-30-5, Acrawax C

(binder, pelletizing mixture with; powder agglomeration for manufacture of
rounded green pellets having increased flowability)

RETABLE

Referenced (RAU)	Author	Year	VOL (RPY)	PG (RVL)	Referenced Work (RPG)	Referenced (RWK)	File
Alfons		1991			US 4983355 A		
Brewer		1999			US 5856278 A		
Hesse		1999			US 5860055 A		
Kawamura		1998			US 5840095 A		
Kodama		1997			US 5650088 A	HCAPLUS	
Lefebvre		1999			US 5977033 A	HCAPLUS	
Matthews		1997			US 5637132 A	HCAPLUS	
Ozaki		1999			US 5989304 A	HCAPLUS	
Shulman		1997			US 5624712 A	HCAPLUS	
Smith		1998			US 5740872 A	HCAPLUS	
Storstrom		1996			US 5480469 A	HCAPLUS	
Uenosono		1999			US 5976215 A	HCAPLUS	

L66 ANSWER 21 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:158199 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 136:209541

TITLE: Manufacturing soft magnetic components using a
ferrous powder and a lubricantINVENTOR(S): Lefebvre, Louis-Philippe; Pelletier, Sylvain;
Thomas, Yannig

PATENT ASSIGNEE(S): National Research Council of Canada, Can.

SOURCE: U.S. Pat. Appl. Publ., 6 pp., Cont.-in-part of
U.S. Ser. No. 322,178.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20020023693	A1	20020228	US 2001-846216 <--	20010502
US 6548012	B2	20030415		
US 6331270	B1	20011218	US 1999-322178 <--	19990528
CA 2446040	A1	20021107	CA 2002-2446040 <--	20020502
WO 2002089154	A1	20021107	WO 2002-CA671 <--	20020502

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
 LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ,
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,
 UA, UG, UZ, VN, YU, ZA, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,
 CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,
 SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

AU 2002257433	A1	20021111	AU 2002-257433	20020502
<--				
EP 1384236	A1	20040128	EP 2002-727101	20020502
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002009379	A	20050111	BR 2002-9379	20020502
<--				
MX 2003010025	A	20050307	MX 2003-10025	20031031
<--				
PRIORITY APPLN. INFO.:				
US 1999-322178 A2 19990528				
<--				
US 2001-846216 A 20010502				
<--				
WO 2002-CA671 W 20020502				
<--				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Near-net-shape soft magnetic components can be produced from Fe powder-lubricant compns. using powder metallurgy techniques. The resulting components have isotropic magnetic and thermal properties and may be shaped into complex geometry using conventional compaction techniques. A noncoated ferromagnetic powder is mixed with a lubricant and compacted. After compaction, the components are thermally treated at a moderate temperature to burn out the lubricant, and possibly also relieve the stresses induced during pressing and reduce the hysteresis losses. Depending on the application, the properties of the material may be tailored by varying the content and type of the lubricant and the thermal treatment conditions.

IC ICM H01F0001-03
 ICS H01F0001-16

INCL 148105000

CC 77-8 (Magnetic Phenomena)
 Section cross-reference(s): 55

ST manuf soft magnetic component ferrous powder lubricant

IT Waxes
 (amide-based, synthetic; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Binders
 Compaction
 Impregnation
 Molding
 (manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Epoxy resins, processes
 Fatty acids, processes
 (manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Magnetic materials
 Magnetic powders
 (soft; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Lubricants
 (solid; manufacturing soft magnetic components using a ferrous powder and

a lubricant)
 IT 11129-12-7, Borate
 (esters; manufacturing soft magnetic components using a ferrous powder and a lubricant)
 IT 557-04-0, Magnesium stearate 557-05-1, Zinc stearate 10043-35-3,
 Boric acid, processes 380599-71-3, Caplube J
 (manufacturing soft magnetic components using a ferrous powder and a lubricant)
 IT 119631-17-3, Steel, (Atomet 1001P/F), processes
 (manufacturing soft magnetic components using a ferrous powder and a lubricant)
 IT 7439-89-6, Iron, processes
 (powder; manufacturing soft magnetic components using a ferrous powder and a lubricant)
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L66 ANSWER 22 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2002:63707 HCAPLUS Full-text
 DOCUMENT NUMBER: 136:121842
 TITLE: Iron-based mixture for powder metallurgy with excellent filling ability and compressibility
 INVENTOR(S): Uenosono, Satoshi; Ozaki, Yukiko
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002020801	A	20020123	JP 2000-206373 <--	20000707
US 20020029657	A1	20020314	US 2001-897396 <--	20010703
US 6533836	B2	20030318		
CA 2352123	A1	20020107	CA 2001-2352123 <--	20010704
EP 1179607	A2	20020213	EP 2001-116481 <--	20010706
EP 1179607	A3	20050413		
EP 1179607	B1	20061213		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CN 1370645	A	20020925	CN 2001-143195 <--	20010707
CN 1229196	C	20051130		
PRIORITY APPLN. INFO.:			JP 2000-206373 <--	A 20000707

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The mixture contains a Fe-base powder, a powder for alloying, a binder, a lubricant, and optionally a cutability enhancer. The Fe-base powder contains 60-90% atomized Fe powder and a reduced Fe powder as the balance. The alloying powder is secured to the surface of the Fe alloy powder with the binder. At least a part of the lubricant is present as a free lubricant. The mixture has excellent compressibility and filling ability. The binder is preferably a stearic acid, oleic acid amide, stearic acid

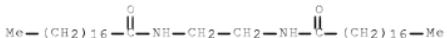
amide, a molten mixture of stearic acid amide and ethylene bis-stearic acid amide, or ethylene bis-stearic acid amide.

IT 110-30-5, Ethylene bis stearic acid amide 124-26-5, Stearic acid amide 301-02-0, Oleic acid amide

(binder containing; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS

CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS

CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0001-00
ICS B22F0003-02

CC 56-4 (Nonferrous Metals and Alloys)

ST iron alloy powder metallurgy binder
lubricant

IT Atomizing (spraying)
(iron powder manufactured by; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT Binders
Lubricants
Powder metallurgy
(iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT Lubricating oils
(spindle oils, binder containing; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT Plastics, uses
(thermoplastics, lubricant containing; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT Lubricating oils
(turbine, binder containing; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT 7440-50-8, Copper, uses
(alloying powder; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT 57-11-4, Stearic acid, uses 110-30-5,
Ethylene bis stearic acid amide
112-80-1, Oleic acid, uses 124-26-5,
Stearic acid amide 301-02-0,
Oleic acid amide
(binder containing; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT 9002-88-4, Polyethylene
(in iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT 7439-89-6, Iron, uses
(iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT 80-62-6, Methyl methacrylate 97-88-1, n-Butyl methacrylate 107-13-1, Acrylonitrile, uses 140-88-5, Ethyl acrylate 141-32-2
(lubricant containing; in iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

IT 79-10-7D, Acrylic acid, esters 79-41-4D, MethAcrylic acid, esters 557-05-1, Zinc stearate 4485-12-5, Lithium stearate
(lubricant containing; iron-based mixture for powder metallurgy with excellent filling ability and compressibility)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

L66 ANSWER 23 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2001:914984 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 136:47402
 TITLE: Manufacturing soft magnetic components using a ferrous powder and a lubricant
 INVENTOR(S): Lefebvre, Louis-Philippe; Pelletier, Sylvain; Thomas, Yannig
 PATENT ASSIGNEE(S): National Research Council of Canada, Can.
 SOURCE: U.S., 5 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6331270	B1	20011218	US 1999-322178 <--	19990528
US 20020023693	A1	20020228	US 2001-846216 <--	20010502

US 6548012 PRIORITY APPLN. INFO.:

B2 20030415

US 1999-322178

A2 19990528

<--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Near-net-shape soft magnetic components can be produced from Fe powder lubricant compns. using powder metallurgy techniques. The resulting components have isotropic magnetic and thermal properties and may be shaped into complex geometry using conventional compaction techniques. A non-coated ferromagnetic powder is mixed with a lubricant and compacted. After compaction, the components are thermally treated at a moderate temperature to burn out the lubricant, relieve the stresses induced during pressing and reduce the hysteresis losses. Depending on the application, the properties of the material may be tailored by varying the content and type of the lubricant and the thermal treatment conditions.

IC ICM B22F0003-12
ICS B22F0003-26

INCL 419027000
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 55

ST manuf soft magnetic component ferrous powder lubricant

IT Waxes
(amide-based, synthetic; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Binders
Compaction
Impregnation
Molding
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Epoxy resins, processes
Fatty acids, processes
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Magnetic materials
Magnetic powders
(soft; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Lubricants
(solid; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Plastics, processes
(thermoplastics, impregnation of; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Plastics, processes
(thermosetting, impregnation of; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT Iron alloy, base
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT 11129-12-7, Borate
(esters; manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT 557-04-0, Magnesium stearate 557-05-1, Zinc stearate 3353-05-7, Manganese stearate 4485-12-5, Lithium stearate 10043-35-3, Boric acid, processes 380599-70-2, Ferrolube M 380599-71-3, Caplube J
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT 119631-17-3, Steel, (Atomet 1001P/F), processes
(manufacturing soft magnetic components using a ferrous powder and a lubricant)

IT 7439-89-6, Iron, processes
(powder; manufacturing soft magnetic components using a ferrous powder
and a lubricant)

RETABLE

Referenced Author (RAU)	Year (R PY) (R VL) (R PG)	VOL	PG	Referenced Work (RWK)	Referenced File
Anon	1989			JP 01129903	
Lefebvre	1999			US 5993729	
Nakamura	1988			US 4721599	HCAPLUS
OS.CITING REF COUNT:	2	THERE ARE 2 CAPIPLUS RECORDS THAT CITE THIS		RECORD (2 CITINGS)	

L66 ANSWER 24 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:507608 HCAPLUS Full-text
DOCUMENT NUMBER: 135:95737
TITLE: Iron-base powder mixture for powder metallurgy, method for production thereof and method for preparing formed product
INVENTOR(S): Ozaki, Yukiko; Uenosono, Satoshi; Ogura, Kuniaki
PATENT ASSIGNEE(S): Kawasaki Steel Corporation, Japan
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001049439	A1	20010712	WO 2000-JP9243	200001226 <--
W: CA, KR RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
JP 2001254102	A	20010918	JP 2000-270872	20000907 <--
JP 4010098 CA 2366988	B2 A1	20071121 20010712	CA 2000-2366988 <--	200001226
EP 1160032	A1	20011205	EP 2000-985894 <--	200001226
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6451082	B1	20020917	US 2000-749576 <--	200001228
TW 464567	B	20011121	TW 2000-89128346 <--	200001229
PRIORITY APPLN. INFO.:			JP 2000-1180 <--	A 20000107
			JP 2000-270872 <--	A 20000907
			WO 2000-JP9243 <--	W 200001226

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB An iron-base powder mixture containing an iron-base powder, a lubricant having been fused and adhered to the iron-base powder, a powder for an alloy adhered to the iron-base powder through the lubricant, and a free lubricant powder, characterized in that ≥ 1 of those components one or more of the above iron-base powder, the above lubricant having been fused and adhered to the iron-

base powder, the above free lubricant powder, and the above powder for an alloy have a surface which is coated with an organosiloxane with a covering percentage of 80 or more. The iron-base powder mixture is excellent in flowability and formability, and also is reduced in the temperature dependency of flowability and green d. It is preferred that the organosiloxane has a Ph group, the lubricant having been fused and adhered to the iron-base powder is a co-molten product of a calcium soap with a lithium soap or a co-molten product of a calcium soap with an amide lubricant, and the free lubricant is a lithium soap or a mixed powder of an amide lubricant with a poly(Me methacrylate) powder.

IC B22F0001-02; B22F0003-02; C10M0105-22; C10M0105-68

CC 55-4 (Ferrous Metals and Alloys)

ST iron powder metallurgy mixt lubricant

IT Polysiloxanes, uses

(Ph, coating; in iron-base powder mixture containing lubricants and alloying metal for powder metallurgy, method for production thereof and method for preparing formed product)

IT Soaps

(calcium, lubricant; in iron-base powder mixture containing lubricants and alloying metal for powder metallurgy, method for production thereof and method for preparing formed product)

IT Polysiloxanes, uses

(coating; in iron-base powder mixture containing lubricants and alloying metal for powder metallurgy, method for production thereof and method for preparing formed product)

IT Lubricants

Powder metallurgy
(in iron-base powder mixture containing lubricants and alloying metal for powder metallurgy, method for production thereof and method for preparing formed product)

IT Soaps

(lithium, lubricant; in iron-base powder mixture containing lubricants and alloying metal for powder metallurgy, method for production thereof and method for preparing formed product)

IT 7439-89-6, Iron, uses 32126-82-2D, nonadecanoic acid or octadecanoic acid terminated

(in iron-base powder mixture containing lubricants and alloying metal for powder metallurgy, method for production thereof and method for preparing formed product)

IT 1112-39-6, Dimethyldimethoxysilane 1592-23-0, Calcium stearate

1829-41-0, Triphenylmethoxysilane 2031-67-6, Methyltriethoxysilane

2996-92-1, Phenyltrimethoxysilane 4485-12-5, Lithium stearate

9011-14-7, Polymethyl methacrylate 18395-30-7,

Isobutyltrimethoxysilane 30585-15-0D, nonadecanoic acid or octadecanoic acid terminated

(lubricant; in iron-base powder mixture containing lubricants and alloying metal for powder metallurgy, method for production thereof and method for preparing formed product)

RETABLE

Referenced	Author	Year	VOL	PG	Referenced Work	Referenced
(RAU)		(R PY)	(R VL)	(R PG)	(R WK)	File
Chisso Corporation		1984			JP 5923801 A	
Daiken Kagaku Kogyo K K	1996				JP 08259847 A	HCAPLUS
Kawasaki Steel Corporat					JP 10317001 A	HCAPLUS
Kawasaki Steel Corporat	1999				EP 913220 A1	HCAPLUS
OS.CITING REF COUNT:	2				THERE ARE 2 CAPLUS RECORDS THAT CITE THIS	

RECORD (6 CITINGS)

L66 ANSWER 25 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 2001:208181 HCPLUS Full-text
 DOCUMENT NUMBER: 134:225598
 TITLE: Amide-wax lubricant for warm compaction
 of iron-based powder blends for sintering preforms
 INVENTOR(S): Vidarsson, Hilmar; Berg, Sigurd
 PATENT ASSIGNEE(S): Hoeganaes AB, Swed.
 SOURCE: PCT Int. Appl., 15 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001019554	A1	20010322	WO 2000-SE1723	20000907 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KE, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
TW 467778	B	20011211	TW 1999-88121316	19991206 <--
EP 1242206	A1	20020925	EP 2000-963204	20000907 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003509582	T	20030311	JP 2001-523164	20000907 <--
US 6573225	B1	20030603	US 2002-49857	20020219 <--
PRIORITY APPLN. INFO.:			SE 1999-3244	A 19990910 <--
			WO 2000-SE1723	W 20000907 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The Fe-based powder blends for preform manufacture by warm (>120°) compaction include a lubricant powder as a polycarboxylic acid amide wax (I) having the m.p. of 180-210°. The powder blend is preheated to the temperature 5-50° below the I wax m.p., and is pressed in heated die to manufacture the preforms suitable for sintering at >1050°. The I wax is typically com. Lanco TPW-031. The powder blend based on Distaloy AE with 0.3% graphite and 0.6% I wax lubricant was pressed at 120-140° to the green d. of .apprx.3.11 g/cm3, vs. 2.99-3.05 g/cm3 using stearamide-type lubricant.

IC ICM B22F0001-00
 ICS C22C0033-02

CC 55-4 (Ferrous Metals and Alloys)

ST iron powder compaction amide wax lubricant

IT Powder metallurgy
 (lubricants; amide-wax lubricant for warm
 compaction of iron-based powder preforms for sintering)

IT Lubricants

(powder-metallurgy; amide-wax lubricant
for warm compaction of iron-based powder preforms for sintering)
IT Amides, uses
(waxy, lubricants; amide-wax lubricant for warm
compaction of iron-based powder preforms for sintering)
IT 7439-89-6, Iron, processes 64216-44-0, Distaloy AE
(powder, pressing of; amide-wax lubricant for warm
compaction of iron-based powder preforms for sintering)

RETABLE

Referenced	Author	Year	VOL	PG	Referenced Work	Referenced
(RAU)		(R PY)	(R VL)	(R PG)	(R WK)	File
Hoeganaes Corporation		1994			WO 9423868 A1	HCAPLUS
Kawasaki Steel Corporat		1998			EP 0853994 A1	HCAPLUS
Kawasaki Steel Corporat		1999			EP 0913220 A1	HCAPLUS
Rutz, H		1992			US 5154881 A	HCAPLUS
Storstrom, H		1998			US 5744433 A	HCAPLUS
OS.CITING REF COUNT:	2	THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)				

L66 ANSWER 26 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:207854 HCAPLUS Full-text
DOCUMENT NUMBER: 134:241072
TITLE: Charge for production of powder-
metallurgy or ceramic products
INVENTOR(S): Bayer, Michael
PATENT ASSIGNEE(S): Clariant G.m.b.H., Germany
SOURCE: Ger., 4 pp.
CODEN: GWXXAW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19960991	C1	20010322	DE 1999-19960991	19991217 <--
JP 2001214204	A	20010807	JP 2000-334099	20001101 <--
EP 1108487	A2	20010620	EP 2000-126749	20001206 <--
EP 1108487	A3	20040303		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2328630	A1	20010617	CA 2000-2328630	20001215 <--
US 20010004138	A1	20010621	US 2000-738616	20001215 <--
US 6383281	B2	20020507		
CN 1303751	A	20010718	CN 2000-136615	20001215 <--
PRIORITY APPLN. INFO.:			DE 1999-19960991	A 19991217 <--

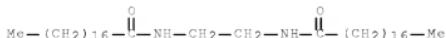
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A sinterable charge consists of a sinter metal or ceramic powder with a
particle size of $\leq 2,000 \mu\text{m}$ 80-99.5 (preferably 85-99), a metallocene
polyolefin wax binder 0.5-20, and optionally a dry lubricant (e.g., fatty acid
metal salt, amide wax) ≤ 19.5 weight%.
IT 110-30-5 124-26-5, Stearoyl amide

(dry lubricant in charge for production of powder metallurgy or ceramic products)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCPLUS

CN Octadecanamide (CA INDEX NAME)



IC ICM B22F0001-00

CC 56-4 (Nonferrous Metals and Alloys)

Section cross-reference(s): 57

ST powder metallurgy charge; sintered ceramic charge

IT Polyolefins

(waxes; binder in charge for production of powder metallurgy or ceramic products)

IT 110-30-5 124-26-5, Stearyl amide 557-05-1, Zinc stearate 1592-23-0, Calcium stearate 4485-12-5, Lithium stearate

(dry lubricant in charge for production of powder metallurgy or ceramic products)

IT 1302-74-5, Corundum, uses 7439-89-6, Iron, uses (in charge for production of powder metallurgy or ceramic products)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9010-79-1, Ethylene-propylene copolymer (wax; binder in charge for production of powder metallurgy or ceramic products)

RETABLE

Referenced (RAU)	Author	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon					EP 0571882 A2	HCPLUS
Anon					EP 0632063 A1	HCPLUS
Anon					EP 0896591 A1	HCPLUS
Anon					WO 9741158 A1	HCPLUS
Anon					WO 9805453 A1	HCPLUS
Anon					WO 9911406 A1	HCPLUS
Anon					WO 9928067 A1	HCPLUS

L66 ANSWER 27 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:907073 HCPLUS [Full-text](#)

DOCUMENT NUMBER: 134:59650

TITLE: Iron-based powder mixture with excellent fluidity for powder metallurgy

INVENTOR(S): Kaminosono, Satoshi; Ozaki, Yukiko
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

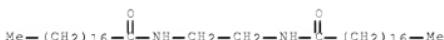
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000355702	A	20001226	JP 1999-306321 <--	19991028
JP 3873547	B2	20070124		
PRIORITY APPLN. INFO.:			JP 1999-100862 <--	A 19990408

AB This powder mixture contains an Fe powder and a free lubricating agent powder which contains 0.02-1 weight% of an antistatic agent and which is mixed in the mixture in 0.1-0.5 weight%. Alternatively, the powder mixture further contains a metal powder for alloying and/or a powder for improving cutting property and another lubricating agent powder containing no antistatic agent in specified ratio. A powder mixture with slightly different composition is also claimed. The lubricating agent powder may be stearic acid, oleic acid amide, stearic acid amide, a melted mixture of stearic acid amide and ethylenesbis(stearic acid amide), ethylenesbis(stearic acid amide), etc. The powder mixture is excellent in fluidity and compaction and easy to be handled and discharged from a hopper.

IT 110-30-5, Ethylenesbis(stearic acid amide) 124-26-5, Stearic acid amide 301-02-0, Oleic acid amide (lubricating agent; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS
 CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS
 CN 9-Octadecenamide, (9%)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0001-00
ICS B22F0001-00; B22F0003-02

CC 55-4 (Ferrous Metals and Alloys)

Section cross-reference(s): 46

ST powder metallurgy iron mixt lubricating agent; antistatic lubricating agent iron powder metallurgy

IT Polyoxalkylenes, processes
(alkyl eter, as antistatic agents; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Polyoxalkylenes, processes
(alkylamine derivs., as antistatic agents; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Polyoxalkylenes, processes
(alkylphenyl ether, as antistatic agents; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Surfactants
(as antistatic agents; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Flow
(consistency, of powder mixture for powder metallurgy; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Fatty acids, processes
(esters, as antistatic agents; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Powder metallurgy
(iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Betaines
(iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT Antistatic agents
Lubricants
(powder mixture containing; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT 1118-68-9D, Dimethylaminoacetic acid, alkyl derivs.
(alkyl derivs, betaine; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT 5725-96-2D, Dimethylamine oxide, alkyl derivs.
(antistatic agent, powder mixture containing; iron-based powder mixture with excellent fluidity and handling easiness for powder metallurgy)

IT 111-42-2D, Diethanolamine, alkyl derivs. 9005-63-4D, Polyoxyethylene sorbitan, fatty acid monoester 12441-09-7D,

Sorbitan, fatty acid ester 25322-68-3D, alkyl
ether 25322-68-3D, alkylamine derivs. 25322-68-3D, alkylphenyl
ether 59149-04-1D, alkyl derivs.
(as antistatic agents; iron-based powder mixture with excellent
fluidity and handling easiness for powder
metallurgy)

IT 7439-89-6P, Iron, preparation
(iron-based powder mixture with excellent fluidity and
handling easiness for powder metallurgy)

IT 57-11-4, Stearic acid, processes
110-30-5, Ethylenabis(stearic acid
amide) 124-26-5, Stearic acid
amide 301-02-0, Oleic acid
amide 9002-88-4, Polyethylene
(lubricating agent; iron-based powder mixture with
excellent fluidity and handling easiness for
powder metallurgy)

IT 7440-50-8, Copper, processes 7782-42-5, Graphite, processes
(powder mixture containing; iron-based powder mixture with excellent
fluidity and handling easiness for powder
metallurgy)

L66 ANSWER 28 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2000:262748 HCPLUS Full-text

DOCUMENT NUMBER: 133:7456

TITLE: Lower melting temperature die wall
lubricants

AUTHOR(S): Ball, Walter G.; Gasbarre, George P., Jr.;
Phillips, Richard R.

CORPORATE SOURCE: Zinc Corporation of America, USA

SOURCE: P/M Science & Technology Briefs (2000),
2(1), 22-26

CODEN: PSTBFM; ISSN: 1527-2478

PUBLISHER: Metal Powder Industries Federation

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Lower melting temperature die wall lubricants could optimize die wall
lubrication and help it further penetrate the powder metallurgy market. Die
wall lubrication uses less lubricant (.apprx.0.05% vs. 0.75% internal
lubricant) and provides a cleaner environment due to little or no lubricant
burn-off during sintering. It also increases green strength and imparts lower
d. variation and dimensional change of sintered parts. The objective of this
study is to find lower melting temperature lubricants which become liquid
during compaction (after coating the die wall) since lubricity increases
(friction decreases) as a dry lubricant transforms into a liquid

IT 110-30-5, Ethylene bisstearamide
(lower melting temperature die wall lubricants)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



CC 55-4 (Ferrous Metals and Alloys)

Section cross-reference(s): 51

ST die wall lubricant powder metallurgy

IT Dies
 Lubricants
 (lower melting temperature die wall lubricants)
 IT 110-30-5, Ethylene bisstearamide 143-07-7,
 Lauric acid, properties
 (lower melting temperature die wall lubricants)

RETABLE

Referenced (RAU)	Author	Year	VOL	PG	Referenced Work (RPG)	Referenced (RWK)	File
Anon		1999	1	1	Private communication		
Ball, W		1994	13	71	Advances in Powder M		
Ball, W		12000	136	1	International Journa	HCAPLUS	
Gasbarre, G		1997	1	1	Unpublished		
Klem, U		1993	12	51	Advances in Powder M		
Lefebvre, L		1999	135	45	International Journa	HCAPLUS	
Pease, L		1999	1	1	Technical Bulletin		

L66 ANSWER 29 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:245998 HCAPLUS Full-text

DOCUMENT NUMBER: 132:337513

TITLE: Influence of lubricants on green and sintered properties of P/M materials

AUTHOR(S): Styskin, V. S.

CORPORATE SOURCE: The Wakefield Corporation, Wakefield, MA, USA

SOURCE: Advances in Powder Metallurgy & Particulate Materials (1999), (Vol. 1), 2/45-2/52

CODEN: APMME3; ISSN: 1065-5824

PUBLISHER: Metal Powder Industries Federation

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The amount of lubricants in powder and their chemical composition have a significant influence on the performance of the material and the green and sintered properties of the powder- metallurgy (P/M) parts. Lubricants are necessary to provide numerous functions such as decrease ejection force, improve d. distribution, enhance flow rate and green strength and other. This paper discusses the influence of "original" lubricants such as zinc stearate, ethylenebisstearamide, lithium stearate, and stearic acid and their 50/50 % mixes on the material characteristic and green and sintered steel parts properties. A total of ten kind of lubricant mixes are studied. The amount of lubricant in all mixes was 1%. The lubricant type and composition should be considered for the new parts tool design and final mech. properties of the sintered parts.

IT 110-30-5, Ethylenebisstearamide
 (lubricant; effect of lubricants on green and sintered properties of powder-metallurgy steel parts)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



CC 55-4 (Ferrous Metals and Alloys)

ST steel powder compaction lubricant; zinc stearate
 lubricant compaction iron powder;

ethylenebisstearamide lubricant compaction iron powder; lithium stearate lubricant compaction iron powder; stearic acid lubricant compaction iron powder

IT Compaction

Densification

Lubricants

Sintering

(effect of lubricants on green and sintered properties of powder-metallurgy steel parts)

IT Strength

(transverse-rupture; effect of lubricants on green and sintered properties of powder-metallurgy steel parts)

IT 11134-47-7P, preparation

(effect of lubricants on green and sintered properties of powder-metallurgy steel parts)

IT 110-30-5, Ethylenebisstearamide 557-05-1, Zinc stearate 4485-12-5, Lithium stearate (lubricant; effect of lubricants on green and sintered properties of powder-metallurgy steel parts)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R V L)	PG (R PG)	Referenced Work (R WK)	Referenced File
Anon	1997	1	1	[Material Standards f]	
Anon	1997	1	1	[Standard Test Method]	
Arima, S	1994	13	91	[Advances in Powder M]	
Auborn, J	1993	12	17	[Advances in Powder M]	
Dwyer, J	1992	13	133	[Advances in Powder M]	
German, R	1984	1	1	[Powder Metallurgy Sc]	
German, R	1986	42	1	[Progress in PM]	
Patel, K	1991	15	151	[Advances in Powder M]	
Patel, K	1984	7	1	[Metals Handbook Nint]	
Renowden, M	1990	1	261	[Advances in Powder M]	
Thomson, C	1984	1	1	[Metals Handbook Nint]	

L66 ANSWER 30 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:460360 HCAPLUS Full-text

DOCUMENT NUMBER: 131:91138

TITLE: Aluminium powder mixtures with organic binder and metal additions for sintered alloys or composites

INVENTOR(S): Schaffer, Graham Barry; Huo, Shuhai; Lumley, Roger Neil

PATENT ASSIGNEE(S): The University of Queensland, Australia

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9933596	A1	19990708	WO 1998-AU1050	19981218

<--

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN,

IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,
 MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
 SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
 ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
 CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9916514 A 19990719 AU 1999-16514 19981218

<--

PRIORITY APPLN. INFO.: AU 1997-1154 A 19971223
 <--
 WO 1998-AU1050 W 19981218

<--

AB The Al or Al-alloy powder for sintering is premixed with: (a) resin binder and/or wax at typically 0.1-1%, especially to decrease dusting and segregation; (b) optional lubricants; and/or (c) metal powders for addnl. alloying, or ceramic powders for composites. The Al master alloy powder is preferably premixed with polyvinyl alc. and/or paraffin wax as the binders. The Al-powder mixts. optionally contain metal and ceramic powders for the manufacture of sintered composites. The Al-alloy powder (containing Zn 8, Mg 2.5, Cu 1, and Pb 0.07%) was premixed with poly(vinyl acetate) binder, pressed in a steel die, and sintered at 600° in dry N2 atmospheric, resulting in the maximum sintered d. of .apprx.2.60 g/cm3 at 0.2-0.3% binder, and the maximum tensile strength (after age hardening) of .apprx.280 MPa at .apprx.0.1% binder.

IT 110-30-5, Ethylene bis-stearamide

(binders with; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylibis- (CA INDEX NAME)



IC ICM B22F0001-00

ICS C22C0001-04

CC 56-4 (Nonferrous Metals and Alloys)

Section cross-reference(s): 57

ST aluminum alloy powder org binder mixt sintering; polyvinyl alc binder aluminum alloy powder sintering; ceramic powder aluminum mixt binder sintering composite

IT Polyoxalkylenes, uses

(binder; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

IT Powder metallurgy

(binders in; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

IT Lubricants

(binders with; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

IT Alkyd resins

Paraffin waxes, uses

Polyurethanes, uses

(binders with; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

IT Ashes (residues)

(fly, composites with; aluminum powder mixts. with organic binder and

ceramic addns. for sintered composites)

IT Glass, uses
(powder, composites with; aluminum powder mixts. with binder and glass addns. for sintered composites)

IT Metal matrix composites
(sintered; aluminum alloy powder mixts. with organic binder and addns. for sintered composites)

IT 9002-89-5, Polyvinyl alcohol 9003-20-7, Polyvinyl acetate
9003-39-8, Polyvinyl pyrrolidone 9004-35-7, Cellulose acetate
9004-36-8 25322-68-3 25322-69-4
(binder; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

IT 57-11-4, Octadecanoic acid, uses
110-30-5, Ethylene bis-stearamide 557-04-0,
Magnesium stearate 557-05-1, Zinc stearate 4485-12-5, Lithium stearate
(binders with; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

IT 409-21-2, Silicon carbide (SiC), uses 1344-28-1, Aluminum oxide (Al₂O₃), uses 7782-42-5, Graphite, uses 10101-52-7, Zirconium silicate 12045-63-5, Titanium diboride 24304-00-5, Aluminum nitride
(composites with, by sintering; aluminum powder mixts. with organic binder and ceramic addns. for sintered composites)

IT 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-02-0,
Nickel, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses 7440-32-6, Titanium, uses 7440-47-3,
Chromium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-66-6, Zinc, uses 7440-67-7, Zirconium, uses
(powder, alloying mixture with; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

IT 7429-90-5, Aluminum, processes 11106-91-5 11145-02-1 11145-03-2
11145-10-1 11145-18-9 12615-50-8 12617-06-0 12633-36-2
37334-14-8 61932-79-4 80954-84-3
(powder, sintering of; aluminum powder mixts. with organic binder and metal addns. for sintered alloys)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Belo Powder Metal	1988			LV 1391806 a	
Corning Inc	1993			EP 554715 A2	HCAPLUS
Kobe Steel	1989			JP 01-312001 A	HCAPLUS
Kogyo, Y	1992			EP 486319 A1	HCAPLUS
Kuroasaki Refract Co	1988			JP 63-96202 A	HCAPLUS
Ota	1976			JP 51-086056	HCAPLUS
Showa Denko	1986			JP 61-053148 A	HCAPLUS
Sumitomo Chemical	1982			GB 2081733 A	HCAPLUS
Toshiba Corp	1989			JP 01-247538 A	HCAPLUS
Zuber	1986			US 4581069 A	HCAPLUS
OS.CITING REF COUNT:	2	THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)			

L66 ANSWER 31 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:156336 HCAPLUS Full-text

DOCUMENT NUMBER: 130:171147

TITLE: Thermoplastic resin as lubricant and binder in iron-based powder mixtures for sintering preforms

INVENTOR(S): Uenosono, Satoshi; Ozaki, Yukiko; Ogura, Kuniaki;
 Nagase, Toshio; Kobayashi, Takeo
 PATENT ASSIGNEE(S): Kawasaki Steel Corporation, Japan
 SOURCE: Eur. Pat. Appl., 28 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 899043	A1	19990303	EP 1998-116013	19980825 <--
EP 899043	B1	20021211		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
US 5976215	A	19991102	US 1998-137105	19980820 <--
JP 2000160206	A	20000613	JP 1998-238413	19980825 <--
JP 3887495	B2	20070228		
CA 2243139	A1	19990228	CA 1998-2243139	19980828 <--
CA 2243139	C	20060822		
PRIORITY APPLN. INFO.:			JP 1997-234893	A 19970829 <--
			JP 1997-295662	A 19971028 <--
			JP 1998-198081	A 19980630 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The sintering mixts. based on Fe powder contain: (a) 0.05-0.50% of thermoplastic resin powder having the primary particle size of 0.03-5 μm , and the average agglomerate size of 5-50 μm ; and (b) optionally 0.1-1.0% of liquid lubricant as a coating on the Fe-powder particles; and (c) optional graphite and alloying powders bonded to the Fe-powder particles. The polymer resin powder contains ≥ 50 weight% of the monomers selected from acrylic esters, methacrylic esters, and/or aromatic vinyl compds., and has the average mol. weight (based on specific viscosity of solution) of 30,000-5,000,000. The resin powder is preferably poly(methylmethacrylate). The liquid lubricant coating contains stearic acid, oleamide, and/or stearamide. The Fe-powder blends with graphite and alloying metals are heated for effective mixing with the lubricants and resin powder, and cooled for storage. The resulting Fe-powder mixts. are flowable, show good resistance to component segregation, and do not contain conventional metal-soap lubricants as impurity source. The Fe-based powder mixts. with graphite and minor alloying metals (especially Cu) are suitable for preforms in manufacture of sintered steel parts.

IT 110-30-5, Ethylenebis(stearamide)
 124-26-5, Stearamide 301-02-0,
 Oleamide
 (lubricant coating with; iron-based powder mixture with
 lubricant and thermoplastic resin for sintering
 of steel)
 RN 110-30-5 HCPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS
 CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS
 CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0001-00
 CC 55-4 (Ferrous Metals and Alloys)
 Section cross-reference(s): 38
 ST iron powder resin lubricant mixt preform sintering
 ; thermoplastic resin iron powder mixt preform sintering;
 polyacrylate lubricant iron powder mixt sintering
 steel
 IT Powder metallurgy
 (for sintered steel; iron-based powder mixture with
 lubricant and thermoplastic resin for sintering
 of steel)
 IT Lubricants
 (powder mixts. with; iron-based powder mixture with lubricant
 and thermoplastic resin for sintering of steel)
 IT Plastics, uses
 (thermoplastics, powder; iron-based powder mixture with
 lubricant and thermoplastic resin for sintering
 of steel)
 IT 57-11-4, Stearic acid, uses 110-30-5,
 Ethylenebis(stearamide) 124-26-5,
 Stearamide 301-02-0, Oleamide
 9002-88-4, Polyethylene
 (lubricant coating with; iron-based powder mixture with
 lubricant and thermoplastic resin for sintering
 of steel)
 IT 9011-14-7, Poly(methylmethacrylate)
 (lubricant containing; iron-based powder mixture with
 lubricant and thermoplastic resin for sintering
 of steel)
 IT 7440-50-8, Copper, uses 7782-42-5, Graphite, uses
 (powder, sintering mixture with; iron-based powder mixture

with lubricant and thermoplastic resin for sintering of steel)
 IT 7439-89-6, Iron, uses (powder; iron-based powder mixture with lubricant and thermoplastic resin for sintering blends)
 IT 12597-69-2P, Steel, preparation (sintered; iron-based powder mixture with lubricant and thermoplastic resin for sintering of steel)

RETABLE

Referenced (RAU)	Author	Year	VOL	PG	Referenced Work (RWP)	Referenced File
			(RPY)	(RVL)	(RPG)	
Hoeganaes, A		1992			IWO 9218275 A	HCAPLUS
Koehler, P		1985			US 4562039 A	HCAPLUS
Luk, S		1994			US 5290336 A	HCAPLUS
Nippon Mining Co		1992			JP 04074802 A	HCAPLUS
OS.CITING REF COUNT:		4			THERE ARE 4 CPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)	

L66 ANSWER 32 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1998:675016 HCAPLUS Full-text
 DOCUMENT NUMBER: 129:319229
 ORIGINAL REFERENCE NO.: 129:65061a,65064a
 TITLE: Iron-base powder mixture for powder metallurgy
 INVENTOR(S): Uenosono, Satoshi; Ogura, Kuniaki
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10280005	A	19981020	JP 1997-95953	19970414
JP 3903520	B2	20070411		<--
JP 2007002340	A	20070111	JP 2006-274249	20061005

PRIORITY APPLN. INFO.: JP 1997-95953 A3 19970414
 <--

AB The mixture contains an Fe-base powder, 0.2-1.0 weight% low-m.p. organic lubricants for primary mixing, a cutability-improving powder, and 0.1-0.35 weight% Zn stearate powder as a lubricant for secondary mixing. The lubricants are selected from stearic acid, oleic acid amide, stearic acid amide, and ethylene bis stearic acid amide.

IT 110-30-5, Ethylene bis Stearic acid

amide 124-26-5, Stearic acid

amide 301-02-0, Oleic acid

amide

(lubricant; in iron-base powder mixture for powder metallurgy)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS
 CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS
 CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0003-02
 ICS B22F0001-00; C10M0105-24; C10M0105-68; C10N0040-20
 CC 55-4 (Ferrous Metals and Alloys)
 ST iron powder metallurgy lubricant mixing
 IT Lubricants
 Mixing
 (in iron-base powder mixture for powder metallurgy
)
 IT Powder metallurgy
 (iron-base powder mixture for powder
 metallurgy)
 IT Lubricating oils
 (spindle oils, lubricant; in iron-base powder mixture for
 powder metallurgy)
 IT Lubricating oils
 (turbine, lubricant; in iron-base powder mixture for
 powder metallurgy)
 IT 7439-89-6, Iron, uses
 (iron-base powder mixture for powder metallurgy)
 IT 57-11-4, Stearic acid, uses 110-30-5,
 Ethylene bis Stearic acid amide
 112-80-1, Oleic acid, uses 124-26-5,
 Stearic acid amide 301-02-0,
 Oleic acid amide 557-05-1, Zinc stearate
 (lubricant; in iron-base powder mixture for powder
 metallurgy)
 OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

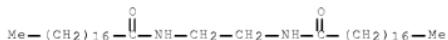
DOCUMENT NUMBER: 130:5579
TITLE: Lubricants for metal powder
metallurgy
INVENTOR(S): Hachimori, Hideo; Adachi, Yasushi; Kawamoto,
Kenichi
PATENT ASSIGNEE(S): Asahi Denka Kogyo K. K., Japan; Adeka Fine
Chemical K. K.; Yoko Sangyo K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10280004	A	19981020	JP 1997-88395 -->	19970407
JP 3737237	B2	20060118	JP 1997-88395	19970407
PRIORITY APPLN. INFO.:				

AB Lubricants for metal powder metallurgy contain (A) N,N'-alkylenebis(carboxylic acid monoamide) crystals having α -form: β -form ratio of 0.99:1-100.
IT 124-26-5, Stearamide
 (lubricants for metal powder metallurgy
)
RN 124-26-5 HCPLUS
CN Octadecanamide (CA INDEX NAME)



IT 110-30-5, N,N'-Ethylenebis(stearamide)
(specified α : β crystalline forms; lubricants for
metal powder metallurgy)
RN 110-30-5 HCPLUS
CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0003-02
ICS C10M0105-68; C10N0040-20
CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 55
ST lubricant metal powder metallurgy;
alkylenebisstearamide cryst form powder
metallurgy lubricant
IT Lubricants
(containing N,N'-alkylenebis(carboxylic acid
monoamide) crystals; lubricants for metal

- powder metallurgy)
- IT Powder metallurgy
 - (lubricants containing N,N'-alkylenebis(carboxylic acid monoamide) crystals; lubricants for metal powder metallurgy)
- IT Crystal morphology
 - (of N,N'-alkylenebis(carboxylic acid monoamide) crystals; in lubricants for metal powder metallurgy)
- IT Iron alloy
 - (lubricants for metal powder metallurgy
 -)
- IT 7439-89-6, Iron, uses
 - (lubricants for metal powder metallurgy
 -)
- IT 124-26-5, Stearamide 4485-12-5, Lithium stearate
 - (lubricants for metal powder metallurgy
 -)
- IT 107-15-3D, Ethylenediamine, N,N'-fatty acid monoamides 110-30-5, N,N'-Ethylenebis(stearamide)
 - (specified α : β crystalline forms; lubricants for metal powder metallurgy)

L66 ANSWER 34 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:171338 HCAPLUS Full-text

DOCUMENT NUMBER: 128:194486

ORIGINAL REFERENCE NO.: 128:38393a,38396a

TITLE: A performance comparison of current P/M lubricants and routes to improvement

AUTHOR(S): Lawrence, Ann I.; Luk, Sydney H.; Hamill, Jack A.

CORPORATE SOURCE: Hoeganaes Corporation, Riverton, NJ, 08077, USA

SOURCE: Advances in Powder Metallurgy & Particulate Materials (1997), (Vol. 1), 4/3-4/21

CODEN: APMME3; ISSN: 1065-5824

PUBLISHER: Metal Powder Industries Federation

DOCUMENT TYPE: Journal

LANGUAGE: English

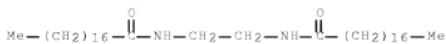
AB The effects of P/M (powder metallurgy) lubricants on material flow, apparent d., compaction, ejection characteristics, and sintered properties were characterized for several pure compds. and composite lubricants (containing metal stearates and other additives) in the P/M processing of Ancorsteel 1000B with 2.9 weight% Fe3P. The findings identified key performance elements which provide a model for developing an improved P/M lubricant. Composite lubricants provided superior or equivalent powder, green, and sintered properties, compared with the industry standard, ethylene bisstearamide, lubricant. Especially, composite lubricants were capable of reducing the force required to eject the compact from the die. No one lubricant particle size satisfied all the requirements; fine lubricants provided higher d. and strength, whereas coarse lubricants reduced the ejection force required.

IT 110-30-5, Ethylene bisstearamide

- (lubricant; development of composite solid lubricants for powder metallurgy processing)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

Section cross-reference(s): 55

ST powder metallurgy solid lubricant;
molding metalworking solid lubricant; sintering
compaction metalworking solid lubricant

IT Powder metallurgy
(compaction; in development of composite solid lubricants
for powder metallurgy processing)

IT Powder metallurgy
(development of composite solid lubricants for
powder metallurgy processing)

IT Sintering
(in development of composite solid lubricants for
powder metallurgy processing)

IT Molding
(injection, powder; in development of composite solid
lubricants for powder metallurgy
processing)

IT Lubricants
(solid, metalworking; development of composite solid
lubricants for powder metallurgy
processing)

IT 57-11-4, Stearic acid, uses 110-30-5,
Ethylene bisstearamide 557-05-1, Zinc stearate
4485-12-5, Lithium stearate
(lubricant; development of composite solid
lubricants for powder metallurgy
processing)

IT 12023-53-9, Iron phosphide (Fe3P)
(processing of Ancorsteel 1000B in presence of; development of
composite solid lubricants for powder
metallurgy processing)

IT 80620-32-2, Ancorsteel 1000B, miscellaneous
(processing of; development of composite solid lubricants
for powder metallurgy processing)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon	1996	1	1	Standard Test Method	
German, R	1986	42	405	Progress in Powder M HCAPLUS	
Kao, A	1980	16	105	International Journal HCAPLUS	
Klemm, U	1993	2	51	Advances in Powder M	
Knopp, W	1993	2	27	Advances in Powder M	
Metz, P	1996	2	59	Advances in Powder M	
Siddiqui, M	1992	24	79	Powder Metallurgy In HCAPLUS	
Ward, M	1979	4	193	Powder Metallurgy	

L66 ANSWER 35 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:112286 HCAPLUS Full-text

DOCUMENT NUMBER: 128:170841

ORIGINAL REFERENCE NO.: 128:33605a,33608a

TITLE: Lubricants with amide and
lithium salt for powder

metallurgy and sintering
preforms
INVENTOR(S): Suzuki, Masaaki; Serita, Toshio; Ukai, Norio;
Saitoh, Hifoyaso
PATENT ASSIGNEE(S): Hoganas AB, Swed.
SOURCE: PCT Int. Appl., 12 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9805453	A1	19980212	WO 1997-SE1327	19970805
<--				
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
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RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
<--				
JP 10046202	A	19980217	JP 1996-206692	19960806
<--				
CA 2262508	A1	19980212	CA 1997-2262508	19970805
<--				
CA 2262508	C	20051018		
AU 9738720	A	19980225	AU 1997-38720	19970805
<--				
BR 9711621	A	19990824	BR 1997-11621	19970805
<--				
EP 946322	A1	19991006	EP 1997-935928	19970805
<--				
R: DE, ES, FR, GB, IT, SE ES 2171982	T3	20020916	ES 1997-935928	19970805
<--				
US 6231635	B1	20010515	US 1999-240621	19990201
<--				
KR 2000029799	A	20000525	KR 1999-700928	19990203
<--				
PRIORITY APPLN. INFO.:			JP 1996-206692	A 19960806
			<--	
			WO 1997-SE1327	W 19970805
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The lubricant mixts. for powder-metallurgy preforms contain: (a) Li salt of fatty acids at 10-60%, especially with the C12-28 fatty acids; (b) optional Zn salt of fatty acids at 0-40%; and (c) fatty acid bis-amides at 40-90%, preferably with ethylene bis-stearic acid amide (I) and similar compds. The molten lubricant mixture is suitable for powder manufacture. The typical lubricant added to atomized steel powder at 80 g/10 kg mix for green preform d. of 7.14 g/cm³ after pressing at 7 tons/cm² contained Li stearate 20, Zn stearate 15, and I 65%, vs. only 6.99 g/cm³ when using Zn stearate. The sintered d. after 30 min at 1120° was comparable to the green d.

IT 110-30-5, Ethylene bis-stearic acid amide

(lubricant mixts. with; lubricants with amide and lithium salt for powder

metallurgy and sintering preforms)
 RN 110-30-5 HCPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0001-00
 CC 56-4 (Nonferrous Metals and Alloys)
 ST powder metallurgy lubricant lithium salt
 amide; fatty acid salt lubricant
 powder metallurgy; steel powder pressing
 lubricant lithium salt
 IT Amides, uses
 (bisamides, fatty acid,
 lubricant mixts. with; lubricants with
 amide and lithium salt for powder
 metallurgy and sintering preforms)
 IT Lubricants
 (for powders; lubricants with amide and lithium
 salt for powder metallurgy and
 sintering preforms)
 IT Powder metallurgy
 (lubricants with amide and lithium salt for
 powder metallurgy and sintering
 preforms)
 IT Furnaces
 (sintering, lubricants for low residue in;
 lubricants with amide and lithium salt for
 powder metallurgy and sintering
 preforms)
 IT 110-30-5, Ethylene bis-stearic acid
 amide 557-05-1, Zinc stearate 4485-12-5, Lithium stearate
 7439-93-2D, Lithium, fatty acid salts, uses
 7440-66-6D, Zinc, fatty acid salts, uses
 (lubricant mixts. with; lubricants with
 amide and lithium salt for powder
 metallurgy and sintering preforms)
 IT 12597-69-2, Steel, processes
 (powder, pressing of; lubricants with amide and
 lithium salt for powder metallurgy and
 sintering of steel)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (RWK)	Referenced File
Nippon Oils & Fats Co L 1979				JP 54117873 A	
Ward, M	1979	22	193	Powder Metall, CAPLU HCPLUS	
OS.CITING REF COUNT:	4			THERE ARE 4 CAPLU RECORDS THAT CITE THIS	
				RECORD (4 CITINGS)	

L66 ANSWER 36 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:664376 HCPLUS Full-text
 DOCUMENT NUMBER: 127:309864
 ORIGINAL REFERENCE NO.: 127:60569a,60572a
 TITLE: Iron-base powder mixtures for powder

metallurgy having stable apparent density, segregation resistance, and excellent fluidity, and their preparation

INVENTOR(S): Kaminosono, Satoshi; Ozaki, Yukiko; Ogura, Kuniaki
 PATENT ASSIGNEE(S): Kawasaki Steel Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09263802	A	19971007	JP 1996-77734 <--	19960329
PRIORITY APPLN. INFO.:			JP 1996-77734 <--	19960329

AB Mixts. of (A) 0.1-1.0 weight% of ≥ 1 heated and molten binders selected from stearic acid (amide), oleic amide, ethylene bisstearylamine, and molten mixts. of stearic amide and ethylene bisstearylamine, (B) Fe-base powders, and (C) alloying powders and/or workability-improving powders are (1) heated at a temperature 10-100° higher than m.p. of the binder, when only 1 binder is used, or at a temperature $\geq 10^{\circ}$ higher than the lowest m.p. of binders and equal or below the highest m.p. of the binders, when ≥ 2 binders are used, (2) cooled, and then (3) mixed with 0.01-0.15 weight% of Zn stearate, 0.05-0.35 wt% of Li stearate, and 0.1-0.3 weight% of powders selected from stearic acid (amide), oleic acid amide, ethylene bisstearylamine, and molten mixts. of stearic amide and ethylene bisstearylamine to give the title powders. Fe-base alloys prepared by molding the claimed powder mixts. in dies can be easily taken from the dies.

IT 110-30-5 124-26-5, Stearic amide
 301-02-0
 (binder; in Fe-base powder mixts. containing binders and lubricants for powder metallurgy)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCPLUS
 CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCPLUS
 CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0003-02
 ICS B22F0001-00
 CC 55-4 (Ferrous Metals and Alloys)
 ST iron powder metallurgy binder mixt;
 stearic acid binder powder
 metallurgy iron; oleic acid binder
 powder metallurgy iron; ethylene
 bisstearylamine binder powder metallurgy
 iron
 IT Binders
 Lubricants
 Powder metallurgy
 (preparation of Fe-base powder mixts. containing binders and
 lubricants for powder metallurgy)
 IT 57-11-4, Stearic acid, uses 110-30-5
 124-26-5, Stearic amide 301-02-0
 (binder; in Fe-base powder mixts. containing binders and
 lubricants for powder metallurgy)
 IT 7440-50-8, Copper, uses 7782-42-5, Graphite, uses
 (in Fe-base powder mixts. containing binders and lubricants
 for powder metallurgy)
 IT 557-05-1, Zinc stearate 4485-12-5, Lithium stearate
 (lubricant; in Fe-base powder mixts. containing binders and
 lubricants for powder metallurgy)
 IT 7439-89-6, Iron, uses
 (preparation of Fe-base powder mixts. containing binders and
 lubricants for powder metallurgy)

L66 ANSWER 37 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:215367 HCPLUS Full-text

DOCUMENT NUMBER: 126:206668

ORIGINAL REFERENCE NO.: 126:39807a,39810a

TITLE: Manufacture of rare earth alloy sintered
 magnet by powder metallurgy

INVENTOR(S): Takahashi, Wataru; Hiraishi, Nobuhige; Kishimoto,
 Yoshihisa; Yamashita, Osamu

PATENT ASSIGNEE(S): Sumitomo Metal Industries, Ltd., Japan; Sumitomo
 Special Metals Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 8
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09017671	A	19970117	JP 1995-183440 <--	19950626
EP 778594	B1	20040929	EP 1996-918894 <--	19960625

R: DE, FR, GB, NL

US 6187259	B1	20010213	US 1997-793368	19970319
<--				
PRIORITY APPLN. INFO.:				
JP 1995-183439 A 19950626				
<--				
JP 1995-183440 A 19950626				
<--				
JP 1995-183441 A 19950626				
<--				
JP 1995-183442 A 19950626				
<--				
JP 1995-183443 A 19950626				
<--				
JP 1995-183444 A 19950626				
<--				
JP 1995-183445 A 19950626				
<--				
JP 1995-254696 A 19950905				
<--				
WO 1996-JP1745 W 19960625				
<--				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The magnet is manufactured by kneading rare earth alloy powders with an aqueous binder containing ≥ 1 water-soluble polymer to prepare a slurry, spray-drying to form granulated powders, adding a fatty acid ester and/or a borate ester, press-molding, and sintering. The fatty acid ester and/or the borate ester works as lubricant(s). The method gives magnets with uniform weight and d.

IT 9003-05-8, Polyacrylamide
(binder; manufacture of rare earth alloy sintered magnet by powder metallurgy using lubricant)

RN 9003-05-8 HCAPLUS

CN 2-Propenamide, homopolymer (CA INDEX NAME)

CM 1

CRN 79-06-1
CMF C3 H5 N O

IC ICM H01F0041-02
ICS H01F0001-053; H01F0001-08

CC 77-4 (Magnetic Phenomena)
Section cross-reference(s): 55

ST rare earth alloy magnet powder metallurgy; fatty ester lubricant magnet powder metallurgy ; borate ester lubricant magnet powder metallurgy; ac polymer binder alloy magnet granulation

IT Polyoxyalkylenes, uses
Polyvinyl acetals
(binder; manufacture of rare earth alloy sintered magnet by powder metallurgy using lubricant)

IT Lubricants
Magnets
(manufacture of rare earth alloy sintered magnet by

powder metallurgy using lubricant)
 IT 9002-89-5, Poly(vinyl alcohol) 9003-01-4, Poly(acrylic acid)
 9003-05-8, Polyacrylamide 9086-60-6, Carboxymethyl
 cellulose ammonium salt 25322-68-3 28214-57-5, Poly(ammonium
 acrylate)
 (binder; manufacture of rare earth alloy sintered magnet by
 powder metallurgy using lubricant)
 IT 141135-31-1
 (manufacture of rare earth alloy sintered magnet by
 powder metallurgy using lubricant)
 IT 155142-64-6 187836-78-8
 (manufacture of rare earth alloy sintered magnet by
 powder metallurgy using lubricant)

L66 ANSWER 38 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1997:130433 HCPLUS Full-text
 DOCUMENT NUMBER: 126:160760
 ORIGINAL REFERENCE NO.: 126:31033a,31036a
 TITLE: Vinyl halide lubricants for compaction
 of metal powders into preforms for
 sintering

INVENTOR(S): German, Randall M.; Griffio, Anthony; Potter, Tracy
 PATENT ASSIGNEE(S): Penn State Research Foundation, USA
 SOURCE: U.S., 19 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5602350	A	19970211	US 1995-440858 -->	19950515
PRIORITY APPLN. INFO.:			US 1995-440858 -->	19950515

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The metal and/or alloy powder mixts. for high-d. green preforms for sintering include vinyl halide lubricant at nominally 0.2-0.6% for improved compaction. The preforms based on Fe or steel powders can be compacted at 30-50 ton/in.², and are heated in H₂ atmospheric to 400-700° to vaporize the lubricants, and then are heated to 1120-1265° for sintering. The lubricant mixture typically includes powdered polytetrafluoroethylene (I) as the vinyl halide, optionally with stearic acid, ethylene bis-stearamide, and/or Zn stearate. The green preforms for sintered steel articles have typical d. of 6.8-7.3 g/cm³, and can be sintered to 6.6-7.33 g/cm³. The preforms from Distaloy 4800A powder for sintered steel were compacted at 50 ton/in.² (690 MPa), and with 0.4% I showed the green d. of 7.29 g/cm³ and sintered (1260°) d. of 7.31 g/cm³, vs. only 7.11 and 7.05 g/cm³ when the lubricant mixture was 0.1% I and 0.3% ethylene bis- stearamide.

IT 110-30-5, Ethylene bis-stearamide
 (lubricants with; vinyl halide lubricants for
 compaction of metal powders into preforms for sintering)
 RN 110-30-5 HCPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM C22C0033-02
 ICS C22C0027-04
 INCL 075231000
 CC 56-4 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 51
 ST vinyl halide lubricant powder metallurgy
 ; PTFE lubricant powder steel sintering
 IT Vinyl compounds, processes
 (halide, lubricants with; vinyl halide lubricants
 for compaction of metal powders into preforms for sintering
)
 IT Lubricants
 (in powder metallurgy; vinyl halide
 lubricants for compaction of metal powders into preforms
 for sintering)
 IT Powder metallurgy
 (lubricants; vinyl halide lubricants for
 compaction of metal powders into preforms for sintering)
 IT Sintering
 (powder preforms, lubricants for; vinyl halide
 lubricants for compaction of metal powders into preforms
 for sintering)
 IT 68315-94-6, FC-0208, processes 112814-42-3, Distaloy 4800A
 (for sintering; vinyl halide lubricants for
 compaction of steel powders into preforms for sintering)
 IT 57-11-4, Stearic acid, uses 110-30-5,
 Ethylene bis-stearamide 557-05-1, Zinc stearate
 (lubricants with; vinyl halide lubricants for
 compaction of metal powders into preforms for sintering)
 IT 9002-84-0, PTFE
 (lubricants with; vinyl halide lubricants for
 compaction of metal powders into preforms for sintering)
 IT 1344-28-1, Alumina, uses 7440-02-0, Nickel, uses 7440-33-7,
 Tungsten, uses 7440-47-3, Chromium, uses 7631-86-9, Silica, uses
 (powder, sintering mixts. with; vinyl halide
 lubricants for compaction of metal powders into preforms
 for sintering)
 IT 12597-69-2, Steel, processes
 (powders, for sintered parts; vinyl halide
 lubricants for compaction of metal powders into preforms
 for sintering)

RETABLE

Referenced (RAU)	Author	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Anon					US 2715617 A	HCAPLUS
Anon					US 3086860 A	
Anon					US 3273977 A	HCAPLUS
Anon					US 3558550 A	
Anon					US 3970485 A	HCAPLUS
Anon					US 4283260 A	HCAPLUS
Anon					US 4609527 A	HCAPLUS
Anon					US 4676949 A	HCAPLUS
Anon					US 4693864 A	HCAPLUS
Anon					US 4795598 A	HCAPLUS
Anon					US 5240513 A	HCAPLUS
Anon					US 5368630 A	HCAPLUS

Anon | | | IUS 5472661 A |HCAPLUS
 Anon | | | IUS 5527376 A |HCAPLUS
 OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS
 RECORD (6 CITINGS)

L66 ANSWER 39 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1996:449288 HCAPLUS Full-text
 DOCUMENT NUMBER: 125:103256
 ORIGINAL REFERENCE NO.: 125:19043a,19046a
 TITLE: Manufacture of rare earth-iron-boron
 sintered magnet
 INVENTOR(S): Yamashita, Osamu; Kishimoto, Yoshihisa; Takahashi,
 Wataru
 PATENT ASSIGNEE(S): Sumitomo Special Metals Co., Ltd., Japan; Sumitomo
 Metal Industries, Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08111309	A	19960430	JP 1994-272860	19941011 <--
PRIORITY APPLN. INFO.:			JP 1994-272860	19941011 <--

AB The magnet is manufactured by these steps: coating a R-Fe-B alloy powder (R = Y-containing rare-earth element) with a boric acid ester, adding a binder of H2O and Me cellulose, polyacryl amide, and/or poly(vinyl alc.) followed by kneading and mixing to form a slurry, granulating it for 20-400 μm -average grain size granules by spray dryer, and forming the magnet from the granules by powder metallurgy. The manufacture provides a compact sintered magnet with good size precision and less residual C concentration
 IT 9003-05-8, Polyacryl amide
 (binder component; manufacture of rare earth-iron-boron sintered magnet)
 RN 9003-05-8 HCAPLUS
 CN 2-Propenamide, homopolymer (CA INDEX NAME)

CM 1

CRN 79-06-1
 CMF C3 H5 N O



IC ICM H01F0001-08
 ICS B22F0001-02; B22F0003-02; C22C0033-02; C22C0038-00
 CC 77-4 (Magnetic Phenomena)
 Section cross-reference(s): 55
 ST rare earth iron boron magnet; powder metallurgy
 rare earth iron magnet; binder methyl cellulose powder
 metallurgy magnet; polyacryl amide binder magnet

sintered; polyvinyl alc binder powder
metallurgy magnet; borate ester coating alloy powder magnet
IT Powder metallurgy
(manufacture of rare earth-iron-boron sintered magnet)
IT Magnets
(sintered, manufacture of rare earth-iron-boron
sintered magnet)
IT 688-74-4, Tributyl borate
(alloy coating; manufacture of rare earth-iron-boron sintered
magnet)
IT 7732-18-5, Water, uses 9002-89-5, Poly(vinyl alcohol)
9003-05-8, Polyacryl amide 9004-67-5, Methyl
cellulose
(binder component; manufacture of rare earth-iron-boron sintered
magnet)
IT 56-81-5, Glycerin, uses 57-11-4, Stearic acid,
uses
(lubricating agent; manufacture of rare earth-iron-boron
sintered magnet)
IT 166098-36-8
(starting material; manufacture of rare earth-iron-boron
sintered magnet)

L66 ANSWER 40 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1996:91874 HCPLUS Full-text

DOCUMENT NUMBER: 124:123251

ORIGINAL REFERENCE NO.: 124:22841a,22844a

TITLE: Manufacture of sintered machine parts
with concentric green preforms assembled for
contact bonding

INVENTOR(S): Fujiki, Akira; Imazato, Hiromasa; Umino, Shinichi;
Sugihara, Hiroshi; Ishikawa, Hiroyuki; Uemura,
Tsutomu

PATENT ASSIGNEE(S): Nissan Motor Co. Ltd., Japan; Hitachi Powdered
Metals Co. Ltd.

SOURCE: Brit. UK Pat. Appl., 27 pp.

CODEN: BAXXDU

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2288609	A	19951025	GB 1995-7954 <--	19950419
GB 2288609	B	19970723		
JP 07286202	A	19951031	JP 1994-80658 <--	19940419
JP 3398465	B2	20030421		
US 5554338	A	19960910	US 1995-423577 <--	19950418
PRIORITY APPLN. INFO.:			JP 1994-80658 <--	A 19940419

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The green preforms for mech. assembly are alloyed to promote increased growth
of the inner preform relative to the outer preform in sintering. The typical
preform is pressed from the Fe-based powder mixture containing Cu, graphite
powder, organic (especially amide) binders, and waxy or soap-type lubricants,
with the inner Cu content higher than the outer content by $\geq 0.3\%$ to promote

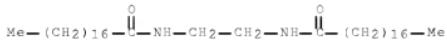
increased expansion and better contact bonding. The binders are selected for fusing at 90-150° to precoat the Fe powder with Cu powder for improved surface alloying, and typically contain methylene bis-stearic acid amide and oleic acid monoamide at 1:1 weight ratio. The process is suitable for manufacture of sintered gears and similar articles from green assemblies with concentric preforms. The powder mixts. for sintered steel in manufacture of a flanged wheel are based on Fe powder, and contain: (a) Cu powder 3.0, graphite powder 1.0, and lubricant-binder combination 0.80% for the inner preform; and (b) Cu 1.5, graphite 0.9, and lubricant-binder 0.80% for the outer preform.

IT 109-23-9, Methylene bis-stearic acid amide 110-30-5, Ethylene bis-stearic acid amide 144-80-9, Steramide 301-02-0
(binders, sintering preforms with; manufacture of sintered machine parts with concentric green preforms assembled for contact bonding)

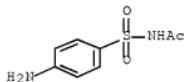
RN 109-23-9 HCPLUS
CN Octadecanamide, N,N'-methylenebis- (CA INDEX NAME)



RN 110-30-5 HCPLUS
CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 144-80-9 HCPLUS
CN Acetamide, N-[(4-aminophenyl)sulfonyl]- (CA INDEX NAME)



RN 301-02-0 HCPLUS
CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0007-06
CC 55-4 (Ferrous Metals and Alloys)
ST steel sintering iron powder alloying binder; gear
sintering powder preform contact bonding; amide
binder iron powder preform sintering
IT Sintering
(preform assembly for; manufacture of sintered machine parts
using concentric green preforms assembled for contact bonding)
IT Powder metallurgy
(preform bonding in; manufacture of sintered machine parts
using concentric green preforms assembled for contact bonding)
IT Gears
(sintered steel; manufacture of sintered machine
parts with concentric green preforms assembled for contact bonding)
IT Waxes and Waxy substances
(sintering lubricants with; manufacture of
sintered machine parts with concentric green preforms
assembled for contact bonding)
IT Wheels
(sprocket, sintered steel; manufacture of sintered
machine parts with concentric green preforms assembled for contact
bonding)
IT 57-11-4, Stearic acid, processes
109-23-9, Methylene bis-stearic acid
amide 110-30-5, Ethylene bis-stearic
acid amide 144-80-9, Steramide
301-02-0
(binders, sintering preforms with; manufacture of
sintered machine parts with concentric green preforms
assembled for contact bonding)
IT 112-80-1, Oleic acid, processes 557-05-1, Zinc
stearate 4485-12-5, Lithium stearate 4499-91-6, Lithium behenate
(sintering lubricants with; manufacture of
sintered machine parts with concentric green preforms
assembled for contact bonding)
IT 7439-89-6, Iron, processes
(sintering mixture from; manufacture of sintered
machine parts with concentric green preforms assembled for contact
bonding)
IT 7440-50-8, Copper, uses 7782-42-5, Graphite, uses
(sintering mixture with; manufacture of sintered
machine parts with concentric green preforms assembled for contact
bonding)
IT 137356-18-4 155822-80-3, Copper 1.5, graphite 0.9, iron 98
173262-51-6, Copper 2.5, graphite 0.8, iron 97 173262-52-7, Copper
2.7, graphite 0.7, iron 97 173262-53-8, Copper 3, graphite 0.6, iron
96 173262-54-9, Copper 1.2, graphite 1, iron 98 173262-55-0,
Copper 1, graphite 0.8, iron 98 173262-56-1, Copper 1, graphite 0.7,
iron 98
(sintering preforms with; manufacture of sintered
machine parts with concentric green preforms assembled for contact
bonding)
IT 9002-88-4, Polyethylene
(wax, sintering lubricants with; manufacture of
sintered machine parts with concentric green preforms
assembled for contact bonding)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS
RECORD (4 CITINGS)

L66 ANSWER 41 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:488603 HCPLUS Full-text
 DOCUMENT NUMBER: 121:88603
 ORIGINAL REFERENCE NO.: 121:15859a,15862a
 TITLE: Manufacture of mixed iron alloy powders
 for powder metallurgy
 INVENTOR(S): Ishikawa, Hiroyuki; Ogura, Kuniaki
 PATENT ASSIGNEE(S): Kawasaki Steel Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06145701	A	19940527	JP 1992-294782	19921104 <-- JP 1992-294782
				19921104 <--

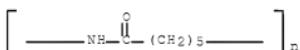
PRIORITY APPLN. INFO.:

AB The title process comprises mixing an Fe powder with alloying powders and/or powders for cutability improvement and a binder containing a polyamide, polyvinyl butyral, and/or polyvinyl formal at $>T$, adding a powdered lubricant from a higher aliphatic acid amide, higher aliphatic acid alc., and/or higher aliphatic acid ester and mixing at $\geq T$ but $<T_1$, where T and T₁ are m.p. of the binder and lubricant, resp. The segregation of additives is decreased, and stable supply of the mixture from a hopper is possible. Thus, a mixture was prepared containing Cu 1.5, graphite 0.9, stearic acid amide and ethylene bis-stearic acid amide as a lubricant 0.5, stearic acid as a binder 0.3%, and balance an Fe powder. The mixture showed good flowability and produced sintered products with good surface quality.

IT 25038-54-4, Nylon 6, uses
 (binder, in manufacture of mixed iron alloy powders for
 powder metallurgy)

RN 25038-54-4 HCPLUS

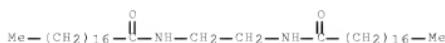
CN Poly[imino(1-oxo-1,6-hexanediyl)] (CA INDEX NAME)



IT 110-30-5, Ethylene bis-stearic acid
 amide 124-26-5, Stearic acid
 amide
 (lubricant, in manufacture of mixed iron alloy powders
 for powder metallurgy)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS
CN Octadecanamide (CA INDEX NAME)



IC ICM B22F0001-00
ICS B22F0003-02
CC 55-4 (Ferrous Metals and Alloys)
ST iron powder mixt sintering; lubricant binder iron
powder metallurgy
IT Lubricants
(aliphatic acid compds., in iron powder mixture for
sintering)
IT Polyamides, uses
(binder, in manufacture of mixed iron alloy powders for
powder metallurgy)
IT Powder metallurgy
(iron powder mixture for, manufacture of)
IT Amides, uses
(lubricant, in manufacture of mixed iron alloy powders
for powder metallurgy)
IT Binding materials
(polyamide, in iron powder mixture for sintering)
IT Carboxylic acids, uses
(aliphatic, esters, lubricant, in manufacture of mixed
iron alloy powders for powder
metallurgy)
IT Vinyl acetal polymers
(butyral, binder, in manufacture of mixed iron alloy powders
for powder metallurgy)
IT Vinyl acetal polymers
(formals, binder, in manufacture of mixed iron alloy powders
for powder metallurgy)
IT 57-11-4, Octadecanoic acid, uses 112-92-5,
1-Octadecanol 25038-54-4, Nylon 6, uses
(binder, in manufacture of mixed iron alloy powders for
powder metallurgy)
IT 7440-50-8, Copper, miscellaneous 7782-42-5, Graphite, miscellaneous
(iron powdered mixture containing, preparation of, for powder
metallurgy)
IT 110-30-5, Ethylene bis-stearic acid
amide 124-26-5, Stearic acid
amide 557-05-1, Zinc stearate
(lubricant, in manufacture of mixed iron alloy powders
for powder metallurgy)
IT 7439-89-6, Iron, miscellaneous
(powdered mixture of, for powder metallurgy, manufacture
of)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

L66 ANSWER 42 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:522143 HCAPLUS Full-text
 DOCUMENT NUMBER: 119:122143
 ORIGINAL REFERENCE NO.: 119:21879a,21882a
 TITLE: Powder mixtures with lubricants for
 pressing in powder metallurgy
 INVENTOR(S): Ogura, Kuniaki; Takagi, Shigeaki; Ishikawa,
 Hiroyuki; Sonobe, Akio; Maeda, Yoshiaki;
 Minegishi, Toshuki
 PATENT ASSIGNEE(S): Kawasaki Steel Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 46 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05148505	A	19930615	JP 1992-64871 <--	19920323
JP 3004800	B2	20000131		
US 5279640	A	19940118	US 1992-948668 <--	19920922
US 5476534	A	19951219	US 1993-101475 <--	19930802
PRIORITY APPLN. INFO.:			JP 1991-63305 <-- JP 1991-134893 <-- JP 1991-253488 <-- US 1992-948668 <--	A1 19910327 A1 19910606 A1 19911001 A3 19920922

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Powder mixts. or additives (especially for alloying and/or improved machinability) are precoated on Fe-alloy powder by mixing with 0.1-1% organic binder, heating to melt the binder, cooling the mixture for binder solidification, and then mixing with 0.01-0.2% lubricant. The binders are fused mixts. of stearic acid, oleic acid monoamide, stearic acid amide, ethylenebisstearic acid amide, and/or methylenebisstearic acid amide, optionally with oleic acid, spindle oil, and/or turbine oil. The binders are optionally fused mixts. of higher fatty acid, higher fatty acid amide, and/or wax. The lubricants are Zn stearate or fatty -acid Li salt. The prepared powdered mixts. show good flowability for die filling as well as low segregation in preforming, and the obtained preforms are readily ejected from the dies.

IT 109-23-9 110-30-5, Ethylenebisstearic acid amide 124-26-5, Octadecanamide 301-02-0
 (binders containing, in powder metallurgy, green mixts. with fused)

RN 109-23-9 HCAPLUS

CN Octadecanamide, N,N'-methylenebis- (CA INDEX NAME)



RN 110-30-5 HCAPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 124-26-5 HCAPLUS
 CN Octadecanamide (CA INDEX NAME)



RN 301-02-0 HCAPLUS
 CN 9-Octadecenamide, (9Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0003-02
 ICS B22F0001-00
 CC 55-4 (Ferrous Metals and Alloys)
 Section cross-reference(s): 51
 ST powder metallurgy org binder lubricant;
 amide binder metal powder pressing
 IT Fatty acids, uses
 Waxes and Waxy substances
 (binders containing, in powder metallurgy, green
 mixts. with fused)
 IT Powder metallurgy
 (binders in, lubricants in mixts. with fused organic, for
 green preforms)
 IT Amides
 (fatty, binders containing, in powder metallurgy,
 green mixts. with fused)
 IT Fatty acids, compounds
 (lithium salts, lubricants, in powder
 metallurgy, green mixts. with fused binder and)
 IT 57-11-4, Stearic acid, uses 109-23-9
 110-30-5, Ethylenebisstearic acid amide 112-80-1,
 Oleic acid, uses 124-26-5,
 Octadecanamide 301-02-0
 (binders containing, in powder metallurgy, green
 mixts. with fused)
 IT 7782-42-5, Graphite, uses 14807-96-6, Talc, uses

(in powder metallurgy, green mixts. with, fused
organic binders for)

IT 557-05-1, Zinc stearate
(lubricants, in powder metallurgy,
green mixts. with fused binder and)
IT 7439-89-6, Iron, uses 7440-50-8, Copper, uses
(powder, binders and lubricants in mixts. from, for
preforms in sintering)

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS
RECORD (3 CITINGS)

L66 ANSWER 43 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1993:85255 HCAPLUS Full-text

DOCUMENT NUMBER: 118:85255

ORIGINAL REFERENCE NO.: 118:14911a,14914a

TITLE: Amide lubricant in compacting
of iron-alloy powders for sintered parts

INVENTOR(S): Rutz, Howard G.; Luk, Sidney

PATENT ASSIGNEE(S): Hoeganaes Corp., USA

SOURCE: U.S., 6 pp.

DOCUMENT TYPE: CODEN: USXXAM

LANGUAGE: Patent

FAMILY ACC. NUM. COUNT: English 1

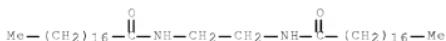
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5154881	A	19921013	US 1992-835808	19920214
EP 555578	A2	19930818	EP 1992-305699	19920622
			<--	
EP 555578	A3	19950201		
EP 555578	B1	19980107		
R: AT, CH, DE, ES, FR, GB, IT, LI, SE				
AT 161763	T	19980115	AT 1992-305699	19920622
			<--	
ES 2112885	T3	19980416	ES 1992-305699	19920622
			<--	
US 5484469	A	19960116	US 1995-372138	19950113
			<--	
PRIORITY APPLN. INFO.:			US 1992-835808	A 19920214
			<--	
			US 1992-917869	B1 19920721
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The Fe-alloy powder mixture for hot compaction at $\leq 370^\circ$ contains $\leq 15\%$ of amide lubricant as the reaction product of C6-12 linear dicarboxylic acid (preferably sebacic acid) and C10-22 monocarboxylic acid (especially stearic acid) 10-30 each with 40-80% of diamine $(\text{CH}_2)_2-6(\text{NH}_2)_2$ (especially ethylenediamine). The amide lubricants m. $\geq 150^\circ$. The powder mixts. for low-alloy steels preferably contain 0.1-1% amide lubricant, and can be compacted in heated dies at 25-55 tons/in.2 to manufacutre the preforms for conventional sintering. A suitable com. amide lubricant is Advawax 450 (as ethylenbisstearamide) m. 200-300 $^\circ$. Thus, the green mixture based on Ancorsteel 1000 powder (with addition of powdered Cu 2, graphite 0.9, and Advawax 450 lubricant 0.7%) showed the green preform d. of 7.16 g/cm3 when pressed at 40 tons/in.2 and 150° , vs. 6.83 g/cm3 after the similar pressing at apprx. 20° . The preforms sintered in dissociated NH3 for 30 min at apprx. 1120° showed the resp. d. of 7.08 vs. 6.73 g/cm3.

IT 110-30-5
 (lubricant, in powder metallurgy)
 RN 110-30-5 HCAPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



IC ICM B22F0001-00
 INCL 419037000
 CC 55-4 (Ferrous Metals and Alloys)
 Section cross-reference(s): 51
 ST amide lubricant powder
 metallurgy; iron alloy powder amide
 lubricant; steel sintering powder amide
 lubricant
 IT Lubricants
 (amide, in powder metallurgy,
 carboxylic acids reacted with diamine for preparation of)
 IT Amides, uses
 (lubricant, in powder metallurgy)
 IT Iron alloy, base
 (powder, amide lubricant in, for pressing of
 preforms in sintering)
 IT 57-11-4D, Stearic acid, reaction products with
 ethylenediamine and sebacic acid 107-15-3D, Ethylenediamine,
 reaction products with sebacic acid and stearamide
 110-30-5 111-20-6D, Sebacic acid, reaction products with
 ethylenediamine and stearic acid
 (lubricant, in powder metallurgy)
 IT 7429-90-5, Aluminum, miscellaneous 7439-89-6, Iron, miscellaneous
 7439-95-4, Magnesium, miscellaneous 7439-96-5, Manganese,
 miscellaneous 7439-98-7, Molybdenum, miscellaneous 7440-02-0,
 Nickel, miscellaneous 7440-03-1, Niobium, miscellaneous 7440-21-3,
 Silicon, miscellaneous 7440-44-0, Carbon, miscellaneous 7440-47-3,
 Chromium, miscellaneous 7440-50-8, Copper, miscellaneous
 7440-57-5, Gold, miscellaneous 7440-62-2, Vanadium, miscellaneous
 7723-14-0, Phosphorus, miscellaneous 7782-42-5, Graphite,
 miscellaneous
 (sintering mixts. containing, amide
 lubricant in, for iron alloys and steels)
 IT 53150-05-3 53947-33-4, Ancorsteel 4600V, miscellaneous 90248-64-9,
 miscellaneous 105914-83-8 132861-13-3, Ancorsteel 85HP,
 miscellaneous 145684-92-0 145845-16-5
 (sintering mixts., with amide lubricant
)

RETABLE

Referenced Author (RAU)	Year (R PY)	VOL (R VL)	PG (R PG)	Referenced Work (R WK)	Referenced File
Anon				US 4002474 A	H CAPLUS
Anon				US 4106932 A	H CAPLUS
OS.CITING REF COUNT:	29	THERE ARE 29 CAPLUS RECORDS THAT CITE THIS RECORD (31 CITINGS)			

ACCESSION NUMBER: 1992:656239 HCPLUS Full-text
 DOCUMENT NUMBER: 117:256239
 ORIGINAL REFERENCE NO.: 117:44243a,44246a
 TITLE: Injection molding compositions for
 sintered metal parts
 INVENTOR(S): Enboku, Masakazu; Otsuka, Akihito
 PATENT ASSIGNEE(S): Sumitomo Metal Mining Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04202604	A	19920723	JP 1990-329728	19901130

PRIORITY APPLN. INFO.: JP 1990-329728 19901130
 <-->

AB The injection molding compns. comprise metal or alloy powder and binder at (30-70):(30-70) volume ratio, and the binder comprises low-d. polyethylene, paraffin wax, and a lubricant selected from saturated alc., unsatd. fatty acid, fatty acid amide, and/or saturated fatty acid. The binder is easily removed after molding, and sintered products having dimensional uniformity are obtained. Thus, Fe-2%Ni alloy powder was mixed with 36 volume% binder containing low-d. polyethylene 20, paraffin wax 75, and capric alc. 5 weight%, injection molded, and sintered.

IT 3999-01-7
 (binders containing, in injection molding of metal or alloy powder)

RN 3999-01-7 HCPLUS

CN 9,12-Octadecadienamide, (9Z,12Z)- (CA INDEX NAME)

Double bond geometry as shown.



IC ICM B22F0003-02
 ICS B29C0045-00; C08K0003-08; C08L0023-04; C08L0091-06
 ICI B29K0029-00
 CC 56-4 (Nonferrous Metals and Alloys)
 IT Powder metallurgy
 (injection molding)
 IT Amides, uses
 (fatty, binders containing, in injection molding of metal or alloy powder)
 IT Fatty acids, uses
 (unsatd., binders containing, in injection molding of metal or alloy powder)
 IT 60-33-3, Linoleic acid, uses 111-87-5, Caprylic acid
 alcohol, uses 112-30-1, Capric alcohol 112-80-1, Oleic acid, uses 124-07-2, Caprylic acid, uses 334-48-5, Capric acid 3999-01-7
 (binders containing, in injection molding of metal or alloy powder)

L66 ANSWER 45 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1982:203794 HCAPLUS [Full-text](#)
 DOCUMENT NUMBER: 96:203794
 ORIGINAL REFERENCE NO.: 96:33563a, 33566a
 TITLE: Microencapsulated lubricant for
 powder metallurgy
 AUTHOR(S): Cole, K.; Blachford, J.
 CORPORATE SOURCE: H. L. Blachford, Ltd., Montreal, QC, H3G 2C3, Can.
 SOURCE: Modern Developments in Powder Metallurgy (1981), 12, 303-16
 CODEN: MDPDB2; ISSN: 0097-2223
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A microencapsulated lubricant, Caplube [81611-97-4], consists of polymer capsule containing .apprx.75 volume% fatty acid derivative liquid, and avoids the metal oxide contamination from the metal stearates. The lubricant contains only C, H, O, and N, and has good flow unlike the amide wax. With Fe powders the lubricant can have a synergistic effect in mixts. (e.g., with Zn stearate). Tests were run for powdered Fe, B-174 [81772-99-8] brass, and Cu with lubricants of graphite, Zn stearate, Li stearate, Acrawax C [8032-03-9], and Caplube.

IT 110-30-5 (lubricant, for powdered metals, microencapsulated lubricant in relation to)

RN 110-30-5 HCAPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



CC 56-4 (Nonferrous Metals and Alloys)

Section cross-reference(s): 51, 55

ST powder metallurgy lubricant

microencapsulation; Caplube lubricant powder

metallurgy; fatty acid deriv

lubricant microencapsulated; iron powder lubricant

microencapsulated; copper powder lubricant

microencapsulated; brass powder lubricant microencapsulated

IT Fatty acids, compounds

(derivs., microencapsulated lubricant with, for
 powder metallurgy)

IT Powder metallurgy

(microencapsulated lubricant in)

IT Lubricants

(microencapsulated, for powder metallurgy)

IT Encapsulation

(micro-, of fatty acid derivative, for
 lubricant in powder metallurgy)

IT 110-30-5 557-05-1 4485-12-5 7782-42-5, uses and
 miscellaneous

(lubricant, for powdered metals, microencapsulated
 lubricant in relation to)

IT 81772-99-8

(microencapsulated lubricant for powdered)

IT 81611-97-4

(microencapsulated lubricant, for powder

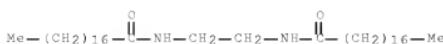
metallurgy)
 IT 7439-89-6, uses and miscellaneous
 (powder, microencapsulated lubricant for)
 IT 7440-50-8, uses and miscellaneous
 (powder, microencapsulated lubricant for powdered)

L66 ANSWER 46 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1977:158160 HCAPLUS Full-text
 DOCUMENT NUMBER: 86:158160
 ORIGINAL REFERENCE NO.: 86:24835a,24838a
 TITLE: Lubricants for powdered metals
 INVENTOR(S): Blachford, John
 PATENT ASSIGNEE(S): Blachford, H. L., Ltd., Can.
 SOURCE: U.S., 13 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4002474	A	19770111	US 1975-600777 <--	19750731
US 4106932	A	19780815	US 1976-749699 <--	19761210
PRIORITY APPLN. INFO.:			CA 1974-206086 <-- US 1975-600777 <--	A 19740731 A2 19750731

AB Pressure-rupturable microcapsules for lubrication in powder metallurgy are disclosed that comprise a core of liquid lubricant enclosed by a thin polymeric solid shell. The microcapsules can be used as the sole lubricant in the manufacture of sintered metal parts, or they can be used in mixts. with other lubricants. Thus, a solution of 30 g tolylene diisocyanate in 120 g Me oleate [112-62-9] was added with stirring to a solution of 3 g Siponic 218 (a polyoxyethylene thioether) in 700 g water. When emulsification was complete, a solution of 30 g ethylenediamine in 70 g water was added, and the mixture was stirred for 4 h at 80°. After separation by filtration and drying at 60°, the microcapsules were white and free flowing with an average particle size of .apprx.50μ and a Me oleate content of .apprx.66%. Standard test methods with powdered Fe were used to compare the lubricant properties of the microcapsules with those of 2 com. lubricants, Zn stearate and ethylenebisstearamide [110-30-5]. The microcapsules were superior in injection force, apparent d., and shrinkage and were similar to the com. lubricants in tensile strength and transverse rupture strength.

IT 110-30-5
 (lubricants, in powder metallurgy)
 RN 110-30-5 HCAPLUS
 CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



CC 51-8 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 55
 ST lubricant encapsulated powder metallurgy
 ; encapsulation lubricant powder
 metallurgy; iron powder compaction lubricant;
 polyurea coating encapsulated lubricant; methyl oleate
 encapsulated lubricant
 IT Powder metallurgy
 (encapsulated lubricants for)
 IT Polyureas
 (lubricants microencapsulation by)
 IT Rape oil
 Soybean oil
 (lubricants, encapsulated, in powder
 metallurgy)
 IT Carnauba wax
 Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous
 (lubricants, in powder metallurgy)
 IT Fatty acids, esters
 (methyl esters, lubricants, encapsulated, in
 powder metallurgy)
 IT Coating materials
 (polyureas, for encapsulated lubricants)
 IT Lubricants
 Lubricating oils
 (encapsulated, for powder metallurgy)
 IT Encapsulation
 (micro-, of lubricants, for powder
 metallurgy)
 IT 7439-89-6, uses and miscellaneous 12597-71-6, uses and miscellaneous
 (compaction of powdered, encapsulated lubricants for)
 IT 9003-69-4 9022-87-1 58676-30-5 62519-69-1 62572-31-0
 62572-32-1 62611-54-5 62611-55-6
 (lubricants microencapsulation by)
 IT 112-62-9 30399-84-9
 (lubricants, encapsulated, in powder
 metallurgy)
 IT 57-11-4, uses and miscellaneous 110-30-5
 (lubricants, in powder metallurgy)
 OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS
 RECORD (6 CITINGS)

L66 ANSWER 47 OF 50 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1973:422526 HCAPLUS Full-text
 DOCUMENT NUMBER: 79:22526
 ORIGINAL REFERENCE NO.: 79:3597a,3600a
 TITLE: Sintered briquets
 INVENTOR(S): Klar, Erhard; Petrosh, Algirdas E.; Michael,
 Arthur B.
 PATENT ASSIGNEE(S): SCM Corp.
 SOURCE: U.S., 4 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3728110	A	19730417	US 1968-782774	19681210

PRIORITY APPLN. INFO.:

<--
US 1968-782774A 19681210
-->

AB Powdered Fe and other metallic compacts are more readily pressed to high d. in irregularly shaped molds if the powder mixture is well lubricated, and more liquid lubricant can be included in such a mixture, without impairing its free-flowing quality that is essential for com. production, if the mixture contains also fine particles of a porous gel to absorb lubricant in excess of the normal amount permissible for flow. Suitable gels for absorbing preferred surfactant lubricants such as oleic and similar fatty acids, fatty alcs., alkyl sulfonates, and sulfonated acids, esters, and amides, are activated C, kieselguhr, montmorillonite clays, fuller's earth, zeolites, and porous gels of SiO₂, Al₂O₃, and other oxides. They absorb only the excess lubricant, which can be made available by high pressure when needed, and in powder form do not interfere with flowability. Preferred oxide gels have at least 90 g oil absorption/100 g by standard ASTM tests, and usually .apprx.0.01-0.1 weight %, based on the metal powder, is a sufficient amount of silica gel for 0.1-0.5 weight % lubricant, on the same basis, for efficient lubrication with economy. The liquid lubricant can be added as a solution in acetone or benzene and added to the powder mixture of metal and gel with subsequent evaporation of the solvent, or the solvent can be omitted with vigorous mill blending. A solid lubricant such as Zn stearate can also be used. Numerous results of tests by standard ASTM methods are reported, comparing the properties of Fe powder mixts., compacts, and sintered articles made with various lubricant -binders. A typical comparison was powder-flow rate 35 sec, green d. 7.12 g/cm³, green strength 2550 psi, sintered d. 7.04, and sintered transverse strength 73,900 psi when the mixture contained Zn stearate 0.2, silica gel 0.05, and oleic acid 0.4%; when the silica gel was omitted the mixture would not pour through the standard test apparatus unless the oleic acid was also omitted. A mixture having only 1% Zn stearate lubricant was less dense and weaker, the properties being 31, 7.03, 1490, 7.00, and 67,100, resp.

IC B22F

INCL 075211000

CC 55-4 (Ferrous Metals and Alloys)
Section cross-reference(s): 46, 51

ST powd iron compact lubricant

IT Silica gel, uses and miscellaneous
(adsorbent, for lubricants in iron powder compaction)IT Lubricants
(in iron powder compaction, adsorbents for)IT Powder metallurgy
(lubrication of powders in, adsorbents for
lubricants in)IT Adsorbents
(silica gel, for lubricants and iron powder compaction)IT 112-80-1, uses and miscellaneous
(lubrication by, of iron powder compacts, silica gel
adsorbent for improved)IT 7439-89-6, uses and miscellaneous 11103-18-7, uses and miscellaneous
39408-34-9
(lubrication for compaction of powder, silica gel
adsorbent for improved)OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS
RECORD (3 CITINGS)

TITLE: Practical effects of lubricants and binders commonly used in compacting metal powders
 AUTHOR(S): Meyer, Rene; Pillot, J.; Pastor, Henri
 CORPORATE SOURCE: Ugine-Carbone, Grenoble, Fr.
 SOURCE: Powder Metallurgy (1969), 12(24), 298-304
 DOCUMENT TYPE: CODEN: PWMATAU; ISSN: 0032-5899
 LANGUAGE: English

AB Compacting lubricants used in powder metallurgy were studied with respect to their thermal decomposition under sintering conditions and their influence on the compactibility of Fe powder (improved d.) and the reduction of ejection force. Lubricants studied were stearic acid; its Zn, Mg, and NH₄ salts and esters; ethylenebisstearamide (I); poly-(Me methacrylate) (II) rubber latex; paraffin; and petrolatum. Addition of 0.25-1% stearates or I increased the d. of Fe powder only 0.2-0.3, whereas addns. of (<50 μ) powdered lubricant significantly reduced the pressure required to expel the compact from the die, especially at very high (.apprx.2 kilobars) compacting pressures. The tensile strength, percent elongation, and magnetic permeability of sintered Fe powder compacted with 1% I were higher than when compacted with Zn stearate. A solid ZnO residue remained after decomposition of Zn stearate. The other lubricants after the dewaxing process at 250-400° also gave solid residues, m. .apprx.50-80%, except II and latex, which gave liquid monomer.

IT 110-30-5
 (lubricants, in powder metallurgy)

RN 110-30-5 HCPLUS

CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



CC 55 (Ferrous Metals and Alloys)
 ST lubricant Fe powder compaction; compaction Fe powder
 lubricant; iron powder compaction lubricant;
 stearates Fe powder compaction

IT Powder metallurgy
 (binders for)

IT Lubricants
 (in powder metallurgy)

IT Rubber, uses and miscellaneous
 Paraffins, uses and miscellaneous
 Petroleum

(lubricants, for powder metallurgy)

IT 57-11-4, uses and miscellaneous 110-30-5 557-04-0
 557-05-1 1002-89-7 9011-14-7, uses and miscellaneous
 (lubricants, in powder metallurgy)

IT 7439-89-6, uses and miscellaneous
 (powder metallurgy of, lubricants
 for)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS
 RECORD (5 CITINGS)

L66 ANSWER 49 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1969:527773 HCPLUS Full-text
 DOCUMENT NUMBER: 71:127773
 ORIGINAL REFERENCE NO.: 71:23789a, 23792a

TITLE: Lubricants for molding metal powder articles

PATENT ASSIGNEE(S): Farbwerke Hoechst A.-G.; Mannesmann-Pulvermetall G.m.b.H.

SOURCE: Brit., 6 pp.

CODEN: BRXXAA

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1165240		19690924	GB 1967-58148	19671221
			<--	
DE 1533009			DE	
US 3539472		19701110	US	19671221
			<--	
PRIORITY APPLN. INFO.:			DE	19661223
			<--	

AB Lubricants effective during compression molding and the ejection of articles made from metal powders, are mixts. of 90-9.9 weight % amides or diamides of C10-32 aliphatic carboxylic acids and 0.1-10 weight % of a C6-32 alc. or diol or a polyethylene glycol with a mol. weight of 500-5000. A homogeneous mix was prepared of 33 g. Fe powder with 0.5 weight% of a lubricant, consisting of N,N'-ethylenebisstearamide 95 and 1,6-hexanediol 5 weight %. The mass was compression molded at 6000 kg./cm.2 into a 20-mm. diameter cylinder having a d. 6.72 g./cc. The specimen was ejected with a force of 154 kg./cm.2 When an equal amount of Zn stearate was the lubricant, the d. and the ejection force were 6.76 g./cc. and 272 kg./cm.2, resp. Fluidity comparisons on 50 g. of the powder mixts. through a given funnel were 34 sec. and 35 sec., resp. Also the 1st lubricant left no residue on burning while the 2nd left a deposit of metallic Zn.

IT 110-30-5 17655-31-1, Amide, uses and
miscellaneous
(lubricants containing, for powder
metallurgy)

RN 110-30-5 HCPLUS
CN Octadecanamide, N,N'-1,2-ethanediylbis- (CA INDEX NAME)



RN 17655-31-1 HCPLUS
CN Amide (CA INDEX NAME)

NH₂-

IC B29C
CC 55 (Ferrous Metals and Alloys)
ST lubricant extrusion molding metal; extrusion molding metal
lubricant; molding lubricant extrusion metal; powder

metal extrusion lubricant
IT Lubricants
(for powder metallurgy of iron)
IT Alcohols, uses and miscellaneous
(lubricants containing, for powder
metallurgy)
IT Powder metallurgy
(lubricants for, containing alcs. and amides)
IT 119-30-5 112-92-5 629-11-8 901-44-0 6801-48-5
17655-31-1, Amide, uses and miscellaneous
25322-68-3 36653-82-4
(lubricants containing, for powder
metallurgy)
IT 7439-89-6, uses and miscellaneous
(powder metallurgy of, lubricants
for)

L66 ANSWER 50 OF 50 HCPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1964:467561 HCPLUS Full-text

DOCUMENT NUMBER: 61:67561

ORIGINAL REFERENCE NO.: 61:11672g,11673b

TITLE: Raw materials and properties in ferrous
powder metallurgy

AUTHOR(S): Forss, S. Lennart

CORPORATE SOURCE: A. Johnson & Co., Inc., New York, NY

SOURCE: Metals Engineering Quarterly (1964),
4(3), 27-36

CODEN: MENQA3; ISSN: 0026-0967

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB Some factors affecting the sintering behavior of com. Fe powders are examined. The main groups are H-reduced roasted mill scale, CO-reduced magnetite, atomized pig iron decarburized either with Fe oxide or by an oxidation process, and electrolytic Fe powder. These powders show differences in their compressibility, sintering activity, and dimensional changes. Cylinders of carbonyl powder (1), H-reduced mill scale (2), sponge Fe powder (3), and electrolytic Fe powder (4) pressed at 40 tons/sq. in. had ds. of 6.60, 6.38, 6.63, and 7.06 g./cc., and green expansions of 0.21, 0.32, 0.27, and 0.20%, resp. Microscopically, (1) consisted of small equiaxed solid particles, (2) had a typical structure of H-reduced Fe203 with many very small partially isolated pores, (3) had larger pores typical of carbonaceous reduction at high temperature, and (4) was an agglomerate of nearly pure Fe particles. When 2 quantities of Fe in perfect contact are heated, there is an exchange of atoms between the 2 that reaches a maximum rate at 1670°F. when the α Fe transforms to γ . At 1670°F. the diffusion rate is lowered to 1/400 of the previous value, increases with rising temperature and reaches the previous maximum at 2200°F. The cylinders were heated 30 min. at temps. from 1000 to 2200°F. The d. increased up to the transformation temperature, decreased to a min. at 1800-1900°F., then increased at higher sintering temps. Bars presintered 0-40 min. at 1650°F. and given a final sinter at 2050°F. for 0 to 40 min. had maximum strength and elongation. To aid ejection of pressed compacts from the die, lubricants are added to the powder in amts. of 0.5-1.5%. The addition of 1% Ni stearate to Fe powder increased both tensile strength and elongation of sintered Fe powder compacts. Test bars containing either Li stearate, Zn stearate, steric acid, or amide wax as lubricants were pressed to increasing ds. and heated, to 1350°F. At low ds. the lubricant could escape. At 6.5 g./cc. and above, decomposition or charring took place in some cases. It is possible to design compns. of the different types of Fe powder with addns. of Cu and graphite to give zero or low dimensional changes on sintering.

CC 19 (Ferrous Metals and Alloys)

IT Waxes or Waxy substances
(as lubricants for Fe powder compaction)

IT Lubricants
(for iron powder compaction)

IT Lubricants
(stearic acid as, effect on compressibility and
ejection force of Fe powder)

IT 7782-42-5, Graphite
(alloys with Cu and Fe, compaction in sintering of)

IT 57-11-4, Stearic acid 4485-12-5, Stearic
acid, lithium salt
(as lubricant for Fe powder compaction)

IT 54331-97-4, Copper alloys, graphite-Fe-
(compaction in sintering of)

IT 7439-89-6, Iron
(compressibility and ejection force powdered lubricant
effect on)

IT 54331-97-4, Iron alloys, copper-graphite-
(hardness, machinability and structure of sintered,
sintering of, compaction in)

IT 557-05-1, Zinc stearate
(lubricants, for Fe powder compaction)

IT 7439-89-6, Iron
(sintering of, compressibility in)

=> D L109 1-9 IBIB ABS HITSTR HITIND RETABLE

L109 ANSWER 1 OF 9 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1999:8719 HCPLUS Full-text

DOCUMENT NUMBER: 130:182698

TITLE: Organogels from Carbohydrate Amphiphiles

AUTHOR(S): Hafkamp, Rudi J. H.; Feiters, Martinus C.; Nolte,
Roeland J. M.

CORPORATE SOURCE: Department of Organic Chemistry NSR Centre,
University of Nijmegen, Nijmegen, 6525 ED, Neth.

SOURCE: Journal of Organic Chemistry (1999),
64(2), 412-426

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Gluconamides can be easily functionalized to give a variety of compds. that form organogels with a high viscosity. N-n-octyl-D-gluconamide-6-benzene gelates a large variety of organic solvents, including 1,2-xylene, chloroform, Et acetate, and ethanol, to form gels which are, in some cases, stable even above the b.p. of the pure solvent. The 2-methoxy, 6-imidazolyl, 6-acetyl, and 6-cyclohexanoyl derivs. also show gelation, but the 2,4;3,5-dimethylene-protected derivs. do not. Detailed ¹H NMR, IR, and X-ray powder diffraction studies reveal that the mols. of most gelators are packed in a head-to-tail fashion. If there is, however, the possibility to form inter-layer hydrogen bonds, as in the case of N-n-octyl-D-gluconamide or N-n-octyl-D-gluconamide-6-(3-pyridyl carboxylate), the mols. are packed head-to-head. Some gluconamides, e.g., those with aliphatic substituents, express their mol. chirality in the supramol. structures, whereas others, in particular those containing a large aromatic substituent on carbon atom C6, yield nonchiral aggregates, probably due to interfering π - π stacking interactions of the substituents. DSC expts. show that the formation of the gels is an entropy-driven process.

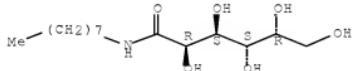
IT 114275-82-0P

(preparation and viscosity of organogels from gluconamide amphiphiles)

RN 114275-82-0 HCAPLUS

CN D-Galactonamide, N-octyl- (CA INDEX NAME)

Absolute stereochemistry.



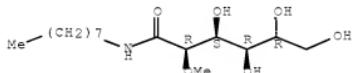
IT 220551-63-3P

(preparation and viscosity of organogels from gluconamide amphiphiles)

RN 220551-63-3 HCAPLUS

CN D-Gluconamide, 2-O-methyl-N-octyl- (CA INDEX NAME)

Absolute stereochemistry.



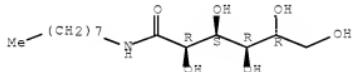
IT 18375-61-6 18375-65-0

(preparation and viscosity of organogels from gluconamide amphiphiles)

RN 18375-61-6 HCAPLUS

CN D-Gluconamide, N-octyl- (CA INDEX NAME)

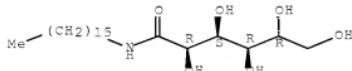
Absolute stereochemistry.



RN 18375-65-0 HCAPLUS

CN D-Gluconamide, N-hexadecyl- (CA INDEX NAME)

Absolute stereochemistry.



CC 33-8 (Carbohydrates)

Section cross-reference(s): 22, 40, 66

IT 114275-82-0P
 (preparation and viscosity of organogels from gluconamide amphiphiles)
 IT 182246-24-8P 182246-26-0P 220551-55-3P 220551-56-4P
 220551-57-5P 220551-58-6P 220551-59-7P 220551-60-0P
 220551-61-1P 220551-62-2P 220551-63-3P 220551-64-4P
 220551-65-5P 220551-66-6P 220551-67-7P 220551-71-3P
 (preparation and viscosity of organogels from gluconamide amphiphiles)
 IT 100-20-9, 1,4-Benzenedicarbonyl dichloride 111-64-8, Capryloyl
 chloride 111-86-4, Octylamine 2719-27-9, Cyclohexanoyl chloride
 10400-19-8, 3-Pyridine-carboxylic acid chloride 18375-61-6
 18375-65-0 220551-69-9
 (preparation and viscosity of organogels from gluconamide amphiphiles)

RETABLE

Referenced Author (RAU)	Year (RPY)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
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Andre, C	1994	1230	31	Carbohydr Res	
Aoki, M	1991		1715	Chem Lett	HCAPLUS
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de Vries, E	1993		238	J Chem Soc Chem Comm	HCAPLUS
Fendler, J	1982			Membrane Mimetic Che	
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Hafkamp, R	1997		1545	Chem Commun	HCAPLUS
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Hanabusa, K	1996	135	1949	Angew Chem Int Ed En	HCAPLUS
Hanabusa, K	1996		1885	Chem Lett	HCAPLUS
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Hanabusa, K	1994		1401	J Chem Soc Chem Comm	HCAPLUS
Herbst, R	1995	1269	29	Carbohydr Res	HCAPLUS
Hoffman, R	1990	128	1458	Magn Res Chem	HCAPLUS
Ishikawa, Y	1994	1116	15579	J Am Chem Soc	HCAPLUS
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James, T	1994		1273	Chem Lett	HCAPLUS
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Koning, J	1993	1115	1693	J Am Chem Soc	
Kunitake, T	1981	103	15401	J Am Chem Soc	HCAPLUS
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Svenson, S	1994	1	1023	J Chem Soc Perkin Tr	HCAPLUS
Svenson, S	1994	198	1022	J Phys Chem	HCAPLUS
Takafuji, M	1995	18	197	Liq Cryst I	HCAPLUS
Takahashi, A	1980	12	1335	Polym J	HCAPLUS
Taraval, F	1990	191	3097	Macromol Chem	
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van Esch, J	1997	13	1238	Chem Eur J	HCAPLUS
van Esch, J	1997	138	281	Tetrahedron Lett	HCAPLUS
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Zabel, V	1986	139	313	Chem Phys Lipids	HCAPLUS
Zief, M	1947	169	2123	J Am Chem Soc	HCAPLUS
OS.CITING REF COUNT:	107	THERE ARE 107 CAPLUS RECORDS THAT CITE THIS RECORD (107 CITINGS)			

L109 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1998:745170 HCAPLUS Full-text

DOCUMENT NUMBER: 129:344755

ORIGINAL REFERENCE NO.: 129:70192a

TITLE: Liquid cleaning compositions

INVENTOR(S): Durbut, Patrick; Broze, Guy

PATENT ASSIGNEE(S): Colgate-Palmolive Co., USA

SOURCE: PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9850519	A1	19981112	WO 1998-US8574	19980430
			<--	
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5888957	A	19990330	US 1997-853392	19970509
			<--	
AU 9872635	A	19981127	AU 1998-72635	19980430

PRIORITY APPLN. INFO.:

<--
US 1997-853392 A 19970509
<--
WO 1998-US8574 W 19980430
<--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB All purpose cleaning or microemulsion compns., especially effective in removing a mixture of oil and kaolin soil, contain an analephotropic neg. charged complex 3-40, a hydrocarbon ingredient 0-10, a cosurfactant 0-50%, Lewis base neutral polymer 0-10%, and H2O. Thus, a microemulsion contained Na lauryl sulfate 1.68, Mg lauryl sulfate 1.68, cocoamidopropyl betaine 2.24%, and water.

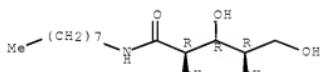
IT 102404-77-3, N-Octyl ribonamide

(aqueous liquid cleaning compns. containing analephotropic complex for good grease removal and leaving a shiny appearance on cleaning hard surfaces)

RN 102404-77-3 HCPLUS

CN D-Ribonamide, N-octyl- (CA INDEX NAME)

Absolute stereochemistry.



IC ICM C11D0017-00

ICS C11D0001-94; C11D0001-83

CC 46-6 (Surface Active Agents and Detergents)

IT Polyoxalkylenes, uses
(alkyl ethers, sulfonated, sodium and magnesium salts; aqueous liquid cleaning compns. containing analephotropic complex for good grease removal and leaving a shiny appearance on cleaning hard surfaces)

IT Surfactants
(amphoteric, complex with anionic compds.; aqueous liquid cleaning compns. containing analephotropic complex for good grease removal and leaving a shiny appearance on cleaning hard surfaces)

IT Surfactants
(analephotropic complex of anionic and amphoteric compds.; aqueous liquid cleaning compns. containing analephotropic complex for good grease removal and leaving a shiny appearance on cleaning hard surfaces)

IT Surfactants
(anionic, complex with amphoteric compds.; aqueous liquid cleaning compns. containing analephotropic complex for good grease removal and leaving a shiny appearance on cleaning hard surfaces)

IT Detergents
(liquid, microemulsion; aqueous liquid cleaning compns. containing analephotropic complex for good grease removal and leaving a shiny appearance on cleaning hard surfaces)

IT 98-11-3D, Benzenesulfonic acid, alkyl ethers, salts, uses 107-43-7D, Betaine, cocoamidopropyl derivs. 151-21-3, Sodium lauryl sulfate, uses 1643-20-5, Lauryl dimethylamine oxide 3097-08-3, Magnesium lauryl sulfate 6284-40-8D, N-Methylglucamine, coco fatty acid amides 7446-11-9D, Sulfur trioxide, olefin derivs., sodium salts, uses 25322-68-3D, Polyethylene glycol, alkyl ethers, sulfonated, sodium and

magnesium salts 102404-77-3, N-Octyl ribonamide
(aqueous liquid cleaning compns. containing analaphotrophic complex for good
grease removal and leaving a shiny appearance on cleaning
hard surfaces)

BETABLE

Referenced Author (RAU)	Year (RYP)	VOL (RVL)	PG (RPG)	Referenced Work (RWK)	Referenced File
Colgate-Palmolive Co	1997			WO 9704059 A	HCAPLUS
Colgate-Palmolive Co	1998			WO 9800418 A	HCAPLUS
Colgate-Palmolive Co	1998			WO 9801522 A	HCAPLUS
Durbut, P	1990			US 4919839 A	HCAPLUS
Durbut, P	1997			US 5665689 A	HCAPLUS
Durbut, P	1998			US 5736496 A	HCAPLUS
Henkel Corp	1997			WO 9700609 A	HCAPLUS
Unilever Plc	1993			EP 0550278 A	HCAPLUS
OS.CITING REF COUNT:	2	THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)			

L109 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:805119 HCPLUS Full-text

DOCUMENT NUMBER: 124:87615

ORIGINAL REFERENCE NO.: 124:16479a, 16482a

TITLE:

The x-ray crystal structure of N-(1-hexadecyl)-D-gluconamide and powder diffraction studies on its lower and higher homologs ($n = 9-18$)

AUTHOR(S): Andre, Christoph; Luger, Peter; Gutberlet, Thomas;
Vollhardt, Dieter; Fuhrhop, Juergen-Hinrich

CORPORATE SOURCE: Inst. Kristallographie, Freie Universitaet

SOURCE: Berlin, D-14195, Germany
Carbohydrate Research (1995), 272(2),

SOURCE: Carbohydrate Research (1995), 272(2), 129-40
CODEN: CRBRAT; ISSN: 0008-6215

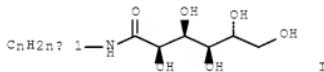
PUBLISHER: CODEN: CRBRAT; ISSN: 0008-6215

PUBLISHER: Elsevier

DOCUMENT TYPE:

LANGUAGE: English

GI



AB The crystal structure of N-(1-hexadecyl)-D-gluconamide I ($n = 16$) ($a = 4.8072(6)$ Å, $b = 46.771(5)$ Å, $c = 5.2885(7)$ Å, $\beta = 94.37(1)^\circ$; monoclinic P21, $Z = 2$) displays the same mol. conformation and the same monolayer packing-arrangement as its lower homologs described previously. This is at seeming variance with most recent CPMAS 13C NMR solid-state investigations describing a bilayer packing. It can be shown that the bilayer arrangement is the result of a kinetically driven crystallization process, whereas the monolayer packing is the thermodynamically stable polymorph of the title compound. Powder spectra of self-assembled layers of N-(1-alkyl)-D-gluconamides I ($n = 9-18$) showed only one-dimensional order and exhibited at most two periodicities. These

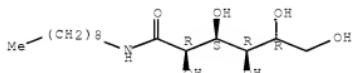
could be assigned to a mono- and bilayer arrangement, resp. Derivs. with long alkyl chains proved to have a smaller tendency towards monolayer assembling than homologs with a short tail.

IT 5438-32-4 18375-62-7 18375-63-8
 18375-64-9 18375-65-0 18375-66-1
 104883-69-4 159538-47-3 159538-48-4
 172214-77-6

(crystal and mol. structure of N-hexadecylgluconamide and powder diffraction studies on its lower and higher homologs)

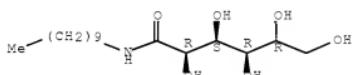
RN 5438-32-4 HCPLUS
 CN D-Gluconamide, N-nonyl- (CA INDEX NAME)

Absolute stereochemistry.



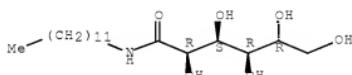
RN 18375-62-7 HCPLUS
 CN D-Gluconamide, N-decyl- (CA INDEX NAME)

Absolute stereochemistry.



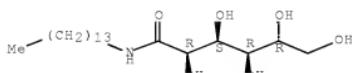
RN 18375-63-8 HCPLUS
 CN D-Gluconamide, N-dodecyl- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



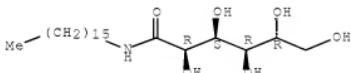
RN 18375-64-9 HCPLUS
 CN D-Gluconamide, N-tetradecyl- (CA INDEX NAME)

Absolute stereochemistry.



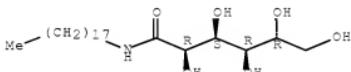
RN 18375-65-0 HCPLUS
 CN D-Gluconamide, N-hexadecyl- (CA INDEX NAME)

Absolute stereochemistry.



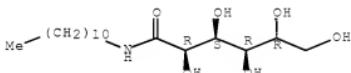
RN 18375-66-1 HCPLUS
 CN D-Gluconamide, N-octadecyl- (CA INDEX NAME)

Absolute stereochemistry.



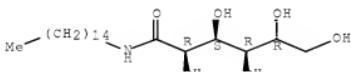
RN 104883-69-4 HCPLUS
 CN D-Gluconamide, N-undecyl- (CA INDEX NAME)

Absolute stereochemistry.



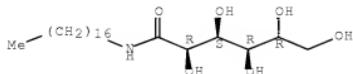
RN 159538-47-3 HCPLUS
 CN D-Gluconamide, N-pentadecyl- (CA INDEX NAME)

Absolute stereochemistry.



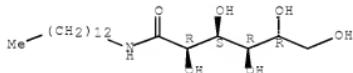
RN 159538-48-4 HCPLUS
 CN D-Gluconamide, N-heptadecyl- (CA INDEX NAME)

Absolute stereochemistry.



RN 172214-77-6 HCPLUS
 CN D-Gluconamide, N-tridecyl- (CA INDEX NAME)

Absolute stereochemistry.



CC 33-8 (Carbohydrates)

Section cross-reference(s): 75

IT Crystal structure

Molecular association

Molecular structure

(crystal and mol. structure of N-hexadecylgluconamide and powder diffraction studies on its lower and higher homologs)

IT 5438-32-4 18375-62-7 18375-63-8
 18375-64-9 18375-65-0 18375-66-1
 104883-69-4 159538-47-3 159538-48-4
 172214-77-6

(crystal and mol. structure of N-hexadecylgluconamide and powder diffraction studies on its lower and higher homologs)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

L109 ANSWER 4 OF 9 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:57227 HCPLUS Full-text

DOCUMENT NUMBER: 120:57227

ORIGINAL REFERENCE NO.: 120:10399a,10402a

TITLE: Nonionic surfactants and their manufacture

INVENTOR(S): Nakamura, Yoshinobu; Tomihara, Kenichi

PATENT ASSIGNEE(S): Toho Chem Ind Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
JP 05221946	A	19930831	JP 1992-58786 <--	19920213

PRIORITY APPLN. INFO.: JP 1992-58786 19920213

AB Nonionic surfactants $\text{CH}_2(\text{OH})[\text{CH}(\text{OH})]4\text{CONRR}_1$ ($\text{R} = \text{C}_8\text{--}22$ alkyl, alkenyl; $\text{R}_1 = \text{H, Me}$) are manufactured by treating glucono- δ -lactone (I) and a primary or secondary amine HNRR₁. Thus, a mixture of I 187, laurylamine 184, and DMF 500 g was treated at 90° for 5 h, cooled, washed, and dried to give 358 g white powder comprising C 59.7, H 9.9, N 3.9, and O 26.5%, with amine value 0.3 and OH value 775.0. A polyester textile impregnated in a 1% solution of the powder showed surface elec. resistance 1.2 + 109 Ω vs. 2.3 + 1015 Ω for a blank.

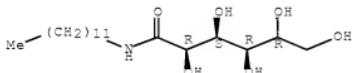
Blank.
IT 18375-63-8P 18375-65-0P 18375-66-1P
94070-87-8P

(preparation of surfactants for antistatic agents and detergents)

BN 18375-63-8 HCAPLUS

CN D-Gluconamide, N-dodecyl- (CA INDEX NAME)

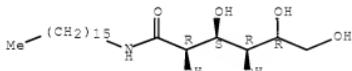
Absolute stereochemistry. Rotation (+).



RN 18375-65-0 HCAPLUS

CN D-Gluconamide, N-hexadecyl- (CA INDEX NAME)

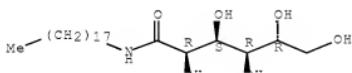
Absolute stereochemistry.



BN 18375-66-1 HCAPLUS

CN D-Gluconamide, N-octadecyl- (CA INDEX NAME)

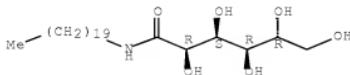
Absolute stereochemistry.



BN 94070-87-8 HCABPLJS

RN 94070-87-8 HCAFLOS
CN D-Gluconamide, N-eicosyl- (CA INDEX NAME)

Absolute stereochemistry

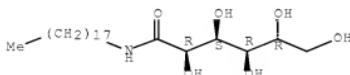


IC ICM C07C0235-06
 ICS B01F0017-38; B01F0017-56; C07C0231-02; C11D0001-52
 CC 46-3 (Surface Active Agents and Detergents)
 Section cross-reference(s): 38, 40
 IT 18375-63-8P 18375-65-0P 18375-66-1P
 87051-15-8P 94070-87-8P 152366-79-5P
 (preparation of, surfactants, for antistatic agents and detergents)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L109 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1975:444506 HCAPLUS Full-text
 DOCUMENT NUMBER: 83:44506
 ORIGINAL REFERENCE NO.: 83:7055a,7058a
 TITLE: Compounding agents for rubber
 INVENTOR(S): Kariyone, Kazuo; Tamugi, Norifusa
 PATENT ASSIGNEE(S): fugisawa, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50013435	A	19750212	JP 1973-64564 <--	19730607
JP 58017764	B	19830409	JP 1973-64564 <--	A 19730607
PRIORITY APPLN. INFO.:				
AB	N-Alkylgluconamides [RNHCO(CHOH)4CH2OH, R = C6-24 alkyl] were used as compounding agents. Thus, 0.5 part N-octadecylgluconamide [18375-66-1] (slipping agent) was mixed with a composition containing 100 parts isoprene rubber.			
IT	18375-66-1 (slipping agents, for isoprene rubber)			
RN	18375-66-1 HCAPLUS			
CN	D-Gluconamide, N-octadecyl- (CA INDEX NAME)			

Absolute stereochemistry.



CC 38-9 (Elastomers, Including Natural Rubber)
 IT Rubber, isoprene
 (slipping agents for, alkylgluconamides as)
 IT 9003-31-0
 (rubber, isoprene; slipping agents for, alkylgluconamides
 as)
 IT 18375-66-1
 (slipping agents, for isoprene rubber)

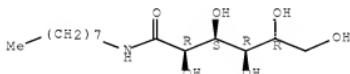
L109 ANSWER 6 OF 9 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1972:449534 HCPLUS Full-text
 DOCUMENT NUMBER: 77:49534
 ORIGINAL REFERENCE NO.: 77:8221a,8224a
 TITLE: Aminoplast molding compositions with good mold
 release properties
 INVENTOR(S): Hanyuda, Toshiaki; Sato, Mitsuru
 PATENT ASSIGNEE(S): Riken Synthetic Resin Co., Ltd.
 SOURCE: Jpn. Tokkyo Koho, 2 pp.
 CODEN: JAXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 46032860	B4	19710925	JP 1968-86622	19681128

<--

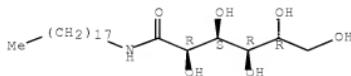
AB N-stearyl-D-gluconamide (I) [18375-66-1] and/or N-octyl-D-gluconamide [18375-61-6] were useful as mold release agents in aminoplast molding compns. Thus, a mixture of 37% HCHO 100, hexamine 4.5, and urea 55 parts was heated 50 min at 60.deg., cooled, and mixed with NH4Cl 0.12, Zn stearate 0.1, and α -cellulose 35 parts. The mixture was dried to a 2% water content, and the dried material (100 parts) was mixed with I 0.2, TiO2 0.2, and pigments 0.13 part and ball-milled to give a molding powder. The powder was molded at 145-50.deg. to give small moldings at a rate of 120 pieces/hr, compared with 90 pieces/hr for a similar molding powder containing Zn stearate in place of I.
 IT 18375-61-6 18375-66-1
 (mold release agent, for urea resins)
 RN 18375-61-6 HCPLUS
 CN D-Gluconamide, N-octyl- (CA INDEX NAME)

Absolute stereochemistry.



RN 18375-66-1 HCPLUS
 CN D-Gluconamide, N-octadecyl- (CA INDEX NAME)

Absolute stereochemistry.



IC C08G
 CC 36-6 (Plastics Manufacture and Processing)
 IT 18375-61-6 18375-66-1
 (mold release agent, for urea resins)

L109 ANSWER 7 OF 9 HCPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1971:13761 HCPLUS Full-text

DOCUMENT NUMBER: 74:13761

ORIGINAL REFERENCE NO.: 74:2215a,2218a

TITLE: Thermoplastic, resinous molding material

INVENTOR(S): Sato, Koichi; Tamugi, Norifusa; Abe, Katsutoshi

PATENT ASSIGNEE(S): Fujisawa Pharmaceutical Co., Ltd.

SOURCE: Ger. Offen., 22 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2013396	B2	19780524	DE 1970-2013396	19700320 <--
DE 2013396	C3	19790125		
US 3637568	A	19720125	US 1970-22035	19700323 <--
FR 2100577	A5	19720324	FR 1970-10422	19700323 <--
FR 2100577	A1	19720324		
GB 1243768	A	19710825	GB 1970-1243768	19700324 <--
PRIORITY APPLN. INFO.:			JP 1969-22209	A 19690324 <--

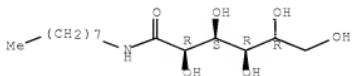
AB Thermoplastic and thermosetting molding compns. with improved processability, mold release properties, and antistatic properties are prepared by addition of 0.01-20% N-alkylgluconamides, $RNHCO[CH(OH)]_4CH_2OH$ (I), where R is C2-18 alkyl. Thus, an acrylonitrile-butadiene-styrene resin is blended 2 min with 2% I [R = $(CH_2)_{17}Me$] at 180° to yield a molding composition with improved flow properties. Other resin compns. with improved processability, thermal stability, mold release properties, and antistatic properties are obtained by blending poly(vinyl chloride), poly(Me methacrylate), polyethylene, polystyrene, urea resins, melamine resins, or phenoic resins with the following I (R given): Et, pentyl, octyl, dodecyl, decyl, hexadecyl, pentadecyl, 2-ethylhexyl, nonyl.

IT 18375-61-6 30425-55-9 30425-56-0
 (elec. charge prevention by, on plastics)

RN 18375-61-6 HCPLUS

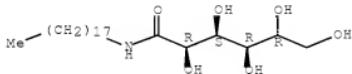
CN D-Gluconamide, N-octyl- (CA INDEX NAME)

Absolute stereochemistry.



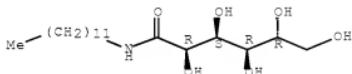
RN 30425-55-9 HCPLUS
 CN Gluconamide, N-octadecyl- (CA INDEX NAME)

Relative stereochemistry.



RN 30425-56-0 HCPLUS
 CN Gluconamide, N-dodecyl- (CA INDEX NAME)

Relative stereochemistry.



IC C08K0005-20A
 CC 36 (Plastics Manufacture and Processing)
 ST alkylgluconamides lubricant molding resin; lubricant
 molding resin alkylgluconamides; mold release agent molding resin;
 antistatic agent molding resin; ABS resin lubricant; PVC
 lubricant; polyethylene lubricant; polystyrene
 lubricant; urea resin lubricant; melamine resin
 lubricant; phenolic resin lubricant
 IT 18375-61-6 30425-55-9 30425-56-0
 30425-57-1 30425-58-2
 (elec. charge prevention by, on plastics)
 OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

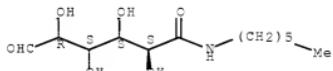
L109 ANSWER 8 OF 9 HCPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1963:403784 HCPLUS [Full-text](#)
 DOCUMENT NUMBER: 59:3784
 ORIGINAL REFERENCE NO.: 59:733b-d
 TITLE: Chemical examination of *Momordica charantia*. III.
 Preparation of D-galacturonic acid and some new
 salts of it
 AUTHOR(S): Vasistha, S. K.; Vasistha, S. C.; Rao, V. R. K.
 CORPORATE SOURCE: Banaras Hindu Univ., India
 SOURCE: Journal of Scientific Research of the Banaras
 Hindu University (1962), 12, 228-30

DOCUMENT TYPE: CODEN: JSRBA9; ISSN: 0447-9483
LANGUAGE: Journal
 Unavailable

AB cf. CA 56, 5125a. From fresh *M. charantia* fruit was obtained pure D-galacturonic acid. From 1280 g. fruit, after repeated extraction with hot EtOH, was obtained 72 g. powder. The solution of Ba D-galacturonate prepared from the powder was added to absolute EtOH without previous concentration in vacuo. The crude precipitated Ba D-galacturonate (I) was purified by solution in H₂O and precipitation with absolute EtOH to give pure I (0.71 g.). I (0.4 g.) was treated with H₂SO₄, filtered, concentrated in vacuo, triturated with dry Me₂CO, and recrystd. from dilute EtOH and from Me₂CO to give 0.1 g. D-galacturonic acid, m. 155°. I and quinine sulfate in absolute EtOH gave quininium D-galacturonate, m. 218-19° (decomposition). Similarly were prepared atropinium D-galacturonate, m. 78-80°, and anilinium D-galacturonate (only as the crude).

IT 99035-94-6
(Derived from data in the 7th Collective Formula Index (1962-1966))
RN 99035-94-6 HCAPLUS
CN Glucuronamide, N-hexyl- (CA INDEX NAME)

Relative stereochemistry.



CC 43 (Carbohydrates)
 IT 3356-20-5 3574-19-4 3574-20-7 3574-21-8 3770-33-0 89146-64-5
 93029-72-2 94892-78-1 95010-46-1 95445-09-3 95592-99-7
 95768-35-7 97063-15-5 98031-55-1 99035-94-6
 100916-25-4 104325-31-7 106216-17-5 106600-30-0
 (Derived from data in the 7th Collective Formula Index (1962-1966))

L108 ANSWER 9 OF 9 HCA11US COPYRIGHT 2009 ACS OF STN

ACCESSION NUMBER: 1956:77523 HCPLUS Full-text

DOCUMENT NUMBER: 50:77523

ORIGINAL REFERENCE NO.: 50:14541a-i, 14542a-i, 14543a-i, 14544a-e

TITLE: Synthetic emulsifying agents

AUTHOR(S): Fieser, Mary; Fieser, Louis F.; Toromanoff, Edmond; Hirata, Yoshimasa; Heymann, Hans; Tefft, Melvin; Bhattacharya, Sivaprasad

CORPORATE SOURCE: Harvard Univ.

SOURCE: Journal of the American Chemical Society (

1956), 78, 2825-32

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: **Unavailable**

AB C18H37OH (10.8 g.) in 180 cc. CHCl₃ added slowly with vigorous stirring and cooling to 6 cc. PhP(O)C₁₂ in 16 cc. CHCl₃ and 3.4 cc. pyridine, the mixture warmed 10 min. at 35°, treated with 5.6 g. dry powdered HO(CH₂)₂NMe₃Cl, stirred 48 hrs. at room temperature, and evaporated, the residue extracted with three 50-cc. portions Et₂O, the insol. residue dissolved in 50 cc. H₂O, the solution saturated with NaCl and extracted with CHCl₃, and the extract evaporated yielded 7 g. C18H₃₇OP(O)O(CH₂)₂CH₂NMe₃Cl (I), m. 82-6° (from Me₂CO-H₂O, 5-12 min. at 100°), ν_{max} 3380, 2950, 1730, 1650, 1450, 1350, 1250, 1150, 1050 cm⁻¹.

Me₂CO). I (3.0 g.) hydrogenated in EtOH over PtO₂ yielded 1.8 g. Cl₂CH₂COCl (CN)(CH₂)₂CH₂CH₂NH₂·3Cl (II) (1.8 g.) Me₂CO. In EtOH treated with

with Amberlite IRA-400, the solvent partially removed, the residue diluted with Me₂CO, and the crude precipitate chromatographed and eluted with 4:1 CHCl₃-EtOH gave the corresponding hydroxide, m. 220-30°; it is sparingly soluble in H₂O and Nujol at room temperature and shows no emulsifying properties. Dihydrophytyl and cholestanyl phosphorylcholine were prepared in essentially the same manner but could not be obtained pure; the crude dihydrophytyl derivative (semisolid) showed some emulsifying action. L-Arabinose (75 g.) in H₂O treated at room temperature 12 hrs. with 120 g. Br, the excess Br removed in vacuo at 40-50°, the mixture treated with 120 g. PbO, the white precipitate filtered off after several hrs., the filtrate treated dropwise with H₂SO₄ and filtered, concentrated in vacuo at 50°, and the residue diluted with 75 cc. MeOH and allowed to stand a few hrs. at 5° deposited 77% arabinolactone (II), m. 148-50° (from MeOH), α D30 -6.5°. II (2 g.) in MeOH treated with 2.2 g. Cl₂H₂₅NH₂ and kept at room temperature deposited 87.5% N-laurylarabonamide, m. 150-1° (from EtOH or dioxane). Similarly were prepared the following N-alkylarabonamides (alkyl group and m.p. given): C10H₂₁, 150-1° (from EtOH); C14H₂₉, 150-1° (from EtOH); C16H₃₃, 150-1° (from dioxane); C18H₃₇, 149-50° (from dioxane). Gluconolactone condensed with C18H₃₇NH₂ (IIa) at 140° or in refluxing EtOH during 1 hr. gave N-stearylgluconamide, m. 149.4-54.8° (from EtOH). Similarly were prepared the following N-alkylgluconamides (III) (alkyl group and m.p. given): C12H₂₅, 153.2-5.6°; C16H₃₂, 150.4-4.6°. Gluchoheptonolactone (2.08 g.), m. 148-52°, and 2.69 g. IIa gave similarly 55% N-stearylgluchoheptonamide, m. 149-52° (cloudy) (from EtOH); it decomposed at about 180°. The C14-, C16-, and C18-III gave a solubility of about 6 g./1. boiling H₂O; when used with cholesterol or the mono-stearyl ether of (CH₂OH)₂ emulsions with an average particle size of 5-10 μ can be obtained in a Waring Blender; these emulsions are stable only for a few hrs. 1,2-Isopropylideneglucuronolactone (IV) was prepared in 81% yield by the method of Owen, et al. (C.A. 35, 6240.2), except that the volume of Me₂CO was reduced to 500 cc. for 20 g. IV and Na₂CO₃ was used instead of BaCO₃. IV (6.6 g.) in 50 cc. dioxane and 15 cc. cold concentrated NH₄OH kept 4-5 hrs. in the cold room, and the solution evaporated in vacuo below 45° gave almost 100% 1,2-isopropylideneglucuronamide (V), needles, m. 163-4° (from absolute EtOH), α D18 -13.5° (c 1, H₂O). IV (5.8 g.) in 50 cc. dry tetrahydrofuran treated with 6.8 g. IIa in small portions with stirring, kept overnight in the cold room, and then a few hrs. at room temperature, the solvent removed in vacuo below 40° to incipient crystallization, and the residue diluted with petr. ether gave 8.0 g. 1,2-isopropylidene-N-stearylglucuronamide (VI), m. 92-3°; 2nd crop, 2.3 g., m. 86-90°. Similarly were prepared the following 1,2-isopropylidene-N-alkylglucuronamides in 70-90% yield (alkyl group, m.p., and α D in MeOH given): C10H₂₁, 70-5° (from petr. ether), -14° (c 1.162); C12H₂₅, 87-8° (from MeOH), -13° (c 1.046); C14H₂₉, 88-90° (from MeOH), -12.5° (c 1.09); C16H₃₃, 90-2° (from EtOH), -13.5° (c 1.064). ω -Cyclohexyldecanoic acid (10 g.) refluxed 2 hrs. with 15 cc. SOCl₂ and evaporated in vacuo, and the cooled residue poured slowly into 100 cc. ice-cold concentrated NH₄OH yielded 9 g. ω -cyclohexyldecanamide (VII), m. 89-93° (from aqueous MeOH). VII (7.6 g.) reduced in the usual manner with LiAlH₄ in refluxing Et₂O and the Et₂O solution treated with HCl gave 6.3 g. ω -cyclohexyldecyllamine HCl salt, m. 151-3° (from MeOH); free base, m. above 50°. The free amine in Et₂O (liberated with aqueous NaHCO₃ from the HCl salt) treated with IV gave 1,2-isopropylidene-N-(ω -cyclohexyldecyll)glucuronamide, m. 88-90°. V (2.3 g.) in 20 cc. H₂O and 0.5 cc. concentrated HCl heated 1-3 min. at 80°, the H₂O removed in vacuo, and the residue crystallized from absolute MeOH gave 1.8 g. glucuronamide (VIII).H₂O, m. 168-9° (decomposition), α D22 70° → 31.9° (44 hrs., c 1.77, H₂O); anhydrous VIII, m. 173-4°. γ -Lactone of β -methylglucuronoside (4.2 g.) in 20 cc. cold dioxane treated overnight with 10 cc. ice cold NH₄OH (d. 0.9), the solvent removed in vacuo below 40°, and the residue hydrolyzed with HCl gave 2.1 g. VIII.H₂O. VI (5 g.) in 100-350 cc.

H₂O and 7 cc. concentrated HCl tested with stirring 30-45 min. on the steam bath and the mixture cooled gave the corresponding N-alkylglucuronamides (alkyl group, m.p., and α D in MeOH given): C10H21, 145-8° (decomposition) (from aqueous MeOH), 24° (c 1.11); C12H25, 160-1° (from aqueous dioxane), -4° → 22° (24 hrs., c 1.18); C14H29, 156-7° (from aqueous dioxane), 11° → 24° (24 hrs., c 1.05); C16H33 (IX), 155-7° (from aqueous dioxane), 24.7° → 26° (24 hrs., c 1.03); C18H37 (X), 153-4° (from aqueous dioxane), 23° (10 min., c 1.046); ω -cyclohexyldecyl (XI), 128-30° (from MeOH), 21° → 25° (24 hrs., c 1.15). ω -Cyclohexylbutyramide, m. 103-6°, reduced to the amine (HCl salt, m. 165-7°), condensed with V, and the product hydrolyzed yielded 80% ω -cyclohexylbutyylglucuronamide, m. 160-3° (from aqueous MeOH), α D 35.8° → 23.5° (24 hrs., c 1.54, MeOH). IX, X, and XI gave fairly stable oil-in-water emulsions when used with a co-emulsifier. IIa (2.5 g.) in 15 cc. cold tetrahydrofuran added to 2 g. β -methylglucuronoside- γ -lactone in cold tetrahydrofuran, the mixture kept overnight in the cold room and then 1-2 hrs. at room temperature, and the solvent removed in vacuo yielded 77% N-stearylamide (XII) of β -methylglucuronoside (XIII), m. 75-8° (from Et2O), α D 21-60.4° (c 1.03, MeOH). A similar run carried out at an initial temperature of 40-50° for 0.5 hr. and then at 25° for 2-3 hrs. yielded 87% higher melting form of XII, m. 93-5° (from MeOH-C6H6), α D 25-60.7° (c 1.0, MeOH). Similarly were prepared the following N-alkylamides of XIII (alkyl group, m.p., and α D in MeOH of form A and B given): C12H25, 68-70°, -58.4° (c 1.05), 88-90°, -58.7° (c 1.43); C14H29, 70-3°, -60.8° (c 1.11), 88-90°, -61° (c 1.04); C16H33, 75-8°, -60.6° (c 1.3), 92-3°, -60.5° (c 1.3). The glucuronosides were hydrolyzed with 1 cc. concentrated HCl in 100 cc. H₂O to the corresponding glucuronamides in nearly 100% yield. The appropriate glucuronamide (5 g.) in 250-500 cc. hot H₂O treated at 50-60° with 4 cc. Br at 40-50°, the solution kept in the cold room overnight, the excess Br removed with saturated aqueous Na₂S2O₃, and the product air-dried and recrystd. from tetrahydrofuran gave about 80% of the corresponding N-alkylglucosaccharonamide (XIV) (alkyl group, m.p., and α D in tetrahydrofuran given): C12H25, 134-7°, -21.5° (c 1.13); C14H29, 125-7°, -22° (c 1.06); C16H33, 135-8° with previous sintering, -21° (c 1.14); C18H37, 137-9°, -22° (c 1.12). The XIV gave less stable emulsions than the corresponding glucuronamides; they are slightly more H₂O-soluble C11H23COCl (2.2 g.) in 20 cc. tetrahydrofuran added dropwise with stirring to 2.15 g. glucosamine-HCl salt and 2 g. NaHCO₃ in 20 cc. H₂O with agitation, the mixture agitated 0.5 hr. and diluted with 100 cc. H₂O, and the precipitate washed with H₂O and recrystd. from dioxane-EtOH gave 3.2 g. N-lauroylglucosamine, m. 190-3°. Similarly were prepared the following N-acylglucosamines (XV) (acyl group and m.p. with decomposition given): C13H27CO, 193-5° (from dioxane-EtOH); C15H31CO, 190-3° (from dioxane-EtOH); C17H35CO, 190-1° (from dioxane-EtOH). C17H35CO₂H (XVI) (11.4 g.) and 6 cc. Et₃N in dry tetrahydrofuran treated with stirring and cooling at -5° with 4 cc. ClCO₂Et and then after 5 min. without further cooling with the Na salt of 3.6 g. β -alanine in 30 cc. cold H₂O, the mixture stirred 0.5 hr., acidified to pH 3-4, and filtered, and the residue washed with warm H₂O, dried, extracted with petr. ether, and recrystd. from 4:1 dioxane-H₂O or tetrahydrofuran yielded 11.2 g. stearoyl- β -alanine (XVII), m. 122-4°, insol. in H₂O at 25°, somewhat soluble at 100°. In the same manner was prepared oleoyl- β -alanine (XVIII), m. 75-6° (from aqueous dioxane). XVIII (1 g.), 1.2 g. AgOAc, and 13 cc. glacial AcOH containing 0.1 cc. H₂O treated during 40 min. with 0.72 g. iodine, the mixture heated 3 hrs. on the steam bath, cooled, filtered, and evaporated, the residue in MeOH refluxed 25 min. with aqueous KOH and filtered, and the filtrate acidified gave 0.6 g. 9,10-dihydroxystearoyl- β -alanine, m. 148-50° (from EtOH). XVII was converted in the usual manner in 71% yield to stearoyl- β -alanyl- β -alanine, m. 153-6° (from aqueous dioxane). Similarly were prepared: stearoyl- β -alanylglycine, 75%, m. 172-4° (from

dioxane-H₂O); stearoyl- β -alanyltaurine, 78%, m. about 200° (decomposition) (it contains solvent of crystallization which is not removed by drying at 150°). XVI (3 g.), 1.07 g. Et₃N, and 1.44 g. ClCO₂CH₂CHMe₂ in CHCl₃-EtOAc treated with 1.62 g. α -alanine Et ester (XVIIa) HCl salt and 1.07 g. Et₃N gave 2.87 g. stearoyl- α -alanine Et ester (XIX), m. 62-5° (from ligoine). XIX (1 g.) in 10 cc. dioxane hydrolyzed with 3 cc. concentrated HCl in 1.5 cc. H₂O on the steam bath during 1 hr. yielded 0.63 g. DL-stearoyl- α -alanine (XX), m. 115-17° (from ligoine-dioxane). XX and XVIIa were converted by the mixed anhydride method to stearoyl- α -alanyl- α -alanine Et ester, m. 82-3°, which was hydrolyzed to the free acid, m. 132-3° (from petr. ether-dioxane). Similarly were prepared the following compds. (% yield and m.p. given): stearoylglycine (XXI), 75-80, 125-7° (from EtOAc-tetrahydrofuran); stearoylglycyl- β -alanine, 70-5, 169-70° (from dioxane); stearoylglycylglycine, 75-80, 170-2° (from dioxane); stearoylglycyltaurine, 80-90, -(practically insol. in various organic solvents; it crystallized from H₂O with H₂O of crystallization which is not lost by drying at 150°); stearoyltaurine, 73, m. about 240° (decomposition); stearoyl-DL-asparagine (XXII), 70, 145-8° (from dioxane); stearoylglycylasparagine (XXIII). H₂O, 70-5°, 180-5° (from aqueous dioxane). XXII (0.4 g.) in 10 cc. dioxane treated with 0.08 g. NaNO₂ in 30 cc. H₂O, warmed 4-6 hrs. on the steam bath with 0.4 cc. concentrated HCl, and cooled to room temperature deposited 0.37 g. stearoyl-DL-aspartic acid (XXIV), m. 111-13° (from aqueous dioxane or EtOAc). XXV heated 15 min. at 70-80° in Ac₂O and cooled gave 100% stearoyl-DL-aspartic anhydride, m. 124-5° (from ligoine containing some tetrahydrofuran). Stearoyl-L-glutamic acid, m. 127-8° (from tetrahydrofuran), α D₂₂ 8.5° (c 1.62, dioxane), was prepared in 55% yield by the mixed anhydride method from L-glutamic acid and then converted in the usual manner to the anhydride, m. 107-9° (from ligoine-tetrahydrofuran). XXIV hydrolyzed with acid in the presence of NaNO₂ yielded 80-90% stearoyl-DL-aspartic acid, m. 165-70°; also prepared in 40-60% yield directly from XXI; the acid was converted in the usual manner to the anhydride, m. 175-80°. C₁₈H₃₂CHBrCO₂H (10 g.) heated 24 hrs. with excess 27% NH₄OH in a pressure bottle and the product washed with H₂O and boiling MeOH and ligoine gave 8.5 g. C₁₆H₃₃CH(NH₂)CO₂H (XXV), m. 223-4° (decomposition). XXV heated with phthalic anhydride 0.5 hr. at 145-60° gave the phthalimido derivative (XXVI) of XXV, m. 81° (from ligoine). XXVI (2 g.) refluxed 3 hrs. with 10 cc. SOCl₂, the excess SOCl₂ removed with suction, the residual oil washed with dry PhMe, dried at 1 mm., dissolved in 20 cc. dry CHCl₃, and treated with 0.71 g. Et ester of α -alanine HCl salt in 10 cc. dry CHCl₃, the mixture cooled to -20°, treated with stirring during 40 min. with 1.1 g. Et₃N in dry CHCl₃, warmed to room temperature, and evaporated in vacuo, and the residue dissolved in ligoine, washed with H₂O, evaporated, and diluted with petr. ether yielded 0.9 g. Et ester (XXVII) of α -phthalimidostearoyl- α -alanine (XXVII), crystals, m. 63-4°; XXVIII, m. 116° (from ligoine). XXVIII (0.45 g.) in 7 cc. 95% EtOH refluxed 45 min. with 1.5 cc. N₂H₄ and a few drops H₂O, cooled, and diluted with H₂O gave 0.28 g. α -aminostearoyl- α -alanine, m. 218-20°. N-Carbobenzyloxy-DL-alanine (4.46 g.), m. 120-2° in 50 cc. tetrahydrofuran containing 3 cc. Et₃N treated with stirring at -5° with 5.4 g. IIa in 50 cc. tetrahydrofuran, the mixture stirred 0.5 hr. without cooling and acidified, the solvent partially removed in vacuo, the residue diluted with cold H₂O, and the precipitate washed with cold dilute NH₄OH and recrystd. from MeOH yielded 8 g. N-Carbobenzyloxy-DL-alanylstearylamine (XXIX), m. 106-9°. XXIX (4.7 g.) in 100 cc. absolute MeOH hydrogenated overnight over 0.25 g. 10% Pd-C, filtered, and evaporated, and the residue heated a few hrs. at 80-90° gave DL-alanylstearylamine (XXX), m. 76-8° (from MeOH). Similarly were prepared the following dipeptides (m.p. and m.p. of the N-carbobenzyloxy derivative given): L-isomer of XXX, 70-3° (from Et₂O), 103-4° (from MeOH); L-alanyl-L-cetylamine, 0.5 H₂O, 58-60° (from Et₂O), m. 90-30 (from MeOH); L-alanyl- ω -cyclohexyldecylamine, 56-8° (from MeOH), 115-16° (from MeOH); L-

leucylstearylamine, 66-8° (from MeOH), (hemihydrate) 96-8° (from MeOH); L-leucylcetylamine, 58-60° (from MeOH), 95-7° (from MeOH); L-prolylstearylamine, 70-2° (from MeOH), 88-90° (from MeOH); glycylstearylamine hemihydrate, 96-8° (from MeOH), 116-18° (from tetrahydrofuran); glycylcetylamine, 84-6° (from MeOH), 110-11° (from MeOH); β -alanylstearylamine hemihydrate, 85-7°, 124-6° (from tetrahydrofuran-MeOH) [carbamate, m. 126-7° (from MeOH)]; β -alanylcetylamine hemihydrate, 84-6° (from Et2O), 124-6° (from dioxane-MeOH) [carbamate, m. 112-14° (from MeOH)]. N-Carbobenzyloxy-L-cysteinylstearylamine, m. 156-61° (from tetrahydrofuran) reduced with Na in liquid NH3 yielded 40% N-cysteinylstearylamine, m. 74-6°. N-Carbobenzyloxyaspartic acid anhydride (7.56 g.) in 35 cc. PhCH2OH treated 1 hr. with cooling with 1 equivalent PhCH2ONa yielded 7 g. PhCH2OCOHNCH(COCH2Ph)CH2CO2H which condensed with IIa via the mixed anhydride with ClCO2Et gave the dicarbobenzyloxy derivative of N-stearyl-L-asparagine (XXXI), m. 92-4° (from MeOH); this treated with MeOH with H over Pd-C gave 60% XXXI, m. 168-70° (from MeOH). N-Carbobenzyloxy-L-alanine condensed with L-alanylstearylamine followed by hydrogenolysis gave 80% L-alanyl-L-alanylstearylamine, m. 115-17° (from MeOH); N-carbobenzyloxy derivative, m. 163-4° (from tetrahydrofuran and MeOH). Similarly was prepared β -alanyl- β -alanylstearylamine monohydrate, m. 160-3°; carbobenzyloxy derivative, m. 175-8°. (CH2OH)2 (84 cc.), 1.5 g. Na, 20 g. C18H37Br, and 10 cc. tetrahydrofuran heated 96 hrs. at 120°, cooled, diluted with H2O, and extracted with Et2O gave 4.3 g. distearyl ether of (CH2OH)2, m. 55-7°; concentration of the mother liquors yielded 11.7 g. monostearyl ether (XXXII) of (CH2OH)2, white flaky solid, m. 51-2°. C18H37O(CH2)2CO2H (XXXIII) treated with LiAlH4 gave a product contaminated with C18H37OH (XXXIV). XXXIV (27 g.) added to 13 g. CH2:CHCO2Me in dry dioxane containing a trace of piperidine and PhCH2NMe3Br, the mixture refluxed overnight, concentrated, and diluted with H2O, the crude product washed with H2O and refluxed with 8 g. KOH in 500 cc. H2O, filtered, and acidified, the precipitate dissolved in Et2O, the solution treated with gaseous NH3, and the precipitate dissolved in H2O and acidified gave 4.5 g. XXXIII, m. 75-8° (from Et2O). XXXIII (1.7 g.) in dry tetrahydrofuran containing a trace Et3N treated at 0° with 0.5 cc. ClCO2Et, diluted after a few min. with absolute MeOH, and warmed to room temperature with stirring gave 1.7 g. Me ester of XXXIII, m. 53-6°, which was converted with concentrated NH4OH to the amide of XXXIII, m. 95-7° (from tetrahydrofuran-Et2O). The emulsion tests were carried out by dissolving the substance in 20 cc. H2O (employing generally the maximum concn), and mixing the solution in an Omnimixer with 5 cc. Nujol containing 0.2 g. cholesterol.

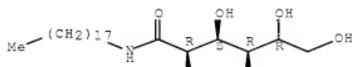
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(Synthetic emulsifying agents)

RN 18375-66-1 HCPLUS

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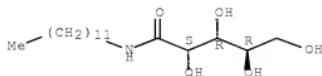
Absolute stereochemistry.



RN 101791-46-2 HCPLUS

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Absolute stereochemistry.

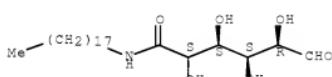


IT 3574-22-9P, Glucuronamide, N-octadecyl- 3770-34-1P
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 30425-56-0P, Gluconamide, N-dodecyl- 162299-83-4P,
 Arabonamide, N-dodecyl-, L- 897953-68-3P, Arabonamide,
 N-tetradecyl-, L- 897953-71-8P, Arabonamide, N-octadecyl-
 L- 897953-42-1P, Arabonamide, N-decyl-, L-
 897953-45-4P, Arabonamide, N-hexadecyl-, L-
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 (preparation of)

RN 3574-22-9 HCPLUS

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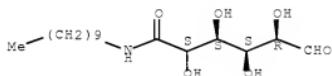
Absolute stereochemistry.



RN 3770-34-1 HCPLUS

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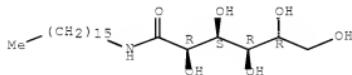
Absolute stereochemistry.



RN 18375-65-0 HCPLUS

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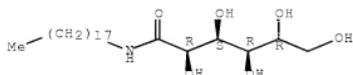
Absolute stereochemistry.



RN 30425-55-9 HCPLUS

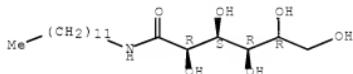
CN Gluconamide, N-octadecyl- (CA INDEX NAME)

Relative stereochemistry.



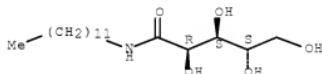
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 CN Gluconamide, N-dodecyl- (CA INDEX NAME)

Relative stereochemistry.



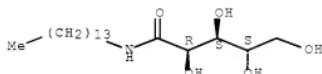
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Absolute stereochemistry. Rotation (+).



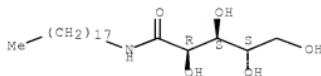
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Absolute stereochemistry.



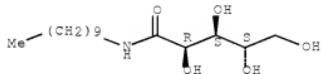
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Absolute stereochemistry.



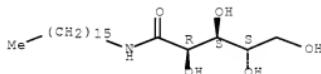
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Absolute stereochemistry.



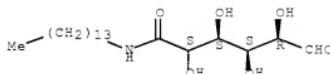
RN 897959-45-4 HCPLUS
 CN Arabonamide, N-hexadecyl-, L- (5CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 911655-19-1 HCPLUS
 CN Glucuronamide, N-tetradecyl- (5CI) (CA INDEX NAME)

Absolute stereochemistry.



CC 10 (Organic Chemistry)
 IT 10562-97-7P 18375-66-1P 101791-46-2P
 1071595-35-1P 1071595-39-5P 1071595-43-1P 1071596-84-3P
 1071597-00-6P 1071597-17-5P 1071597-82-4P 1071621-30-1P
 1082024-31-4P 1082679-75-1P 1082730-73-1P
 (Synthetic emulsifying agents)
 IT 112-92-5P, 1-Octadecanol 2136-72-3P, Ethanol, 2-(octadecyloxy)-
 3397-16-8P, Glutamic acid, N-stearoyl-, L- 3574-22-9P,
 Glucuronamide, N-octadecyl- 3770-34-1P, Glucuronamide,
 N-decyl- 3789-97-7P, Glucuronamide 4126-59-4P, Propionic acid,
 3-(octadecyloxy)- 4355-06-0P, Cyclohexanecanamide 4355-09-3P,
 Cyclohexanecyclamine 4441-62-7P, Cyclohexanebutyramide

4779-31-1P, Aspartic acid, N-carboxy-, N,1-dibenzyl ester
5782-80-9P, Octadecanoic acid, 2-amino- 6333-54-6P, Glycine,
N-stearoyl- 15909-87-2P, Arabonic acid, L-, methyl ester
17196-76-8P, Alanine, N-stearoyl-, DL- 17367-11-2P, Ethane,
1,2-bis(octadecyloxy)- 18375-65-0P, Gluconamide,
N-hexadecyl- 30425-55-9P, Gluconamide, N-octadecyl-
30425-56-0P, Gluconamide, N-dodecyl- 51287-21-9P,
β-Alanine, N-stearoyl- 54627-18-8P, Glucosamine, N-palmitoyl-
59343-85-0P, Glucosamine, N-myristoyl- 61038-27-5P, Glucosamine,
N-lauroyl- 63155-80-6P, Taurine, N-stearoyl- 91342-30-2P,
Cyclohexanecarboxylamine, hydrochloride 112/21-82-1P, Asparagine,
N-octadecyl- 117415-29-9P, β-Alanine, N-oleoyl- 123904-70-1P,
Aspartic anhydride, N-stearoyl- 133849-57-7P, Asparagine,
N2-stearoyl-, DL- 133849-61-3P, Aspartic acid, N-stearoyl-, DL-
148417-30-5P, Carbamic acid, (octadecylcarbamoylmethyl)-, benzyl ester
153720-07-1P, Acetamide, 2-amino-N-octadecyl- 162299-83-4P
, Arabonamide, N-dodecyl-, L- 194550-81-7P, Acetamide,
2-amino-N-hexadecyl- 194550-83-9P, Carbamic acid,
(hexadecylcarbamoylmethyl)-, benzyl ester 198628-99-8P,
Glucosiduronamide, methyl N-dodecyl-, A 198628-99-8P,
Glucosiduronamide, methyl N-dodecyl-, B 198704-30-2P,
Glucosiduronamide, methyl N-tetradecyl-, B 198704-30-2P,
Glucosiduronamide, methyl N-tetradecyl-, A 258348-94-6P, Glutamic
anhydride, N-stearoyl- 291519-58-9P, Carbamic acid,
(3-methyl-1-octadecylcarbamoylbutyl)-, benzyl ester 763027-64-1P,
Propionamide, 3-amino-N-hexadecyl-, L- 764605-21-2P, Glycine,
N-(N-stearoylglycyl)- 854885-86-2P, Carbamic acid,
[1-[(10-cyclohexyldecyl)carbamoyl]ethyl]-, benzyl ester
854893-54-2P, Carbamic acid, [2-[(2-
octadecylcarbamoyl)carbamoyl]ethyl]-, benzyl ester
854893-55-3P, Carbamic acid, [1-[(1-
octadecylcarbamoyl)carbamoyl]ethyl]-, benzyl ester
855351-18-7P, Cyclohexanecarboxylamine, hydrochloride 855688-91-4P,
Carbamic acid, (1-hexadecylcarbamoyl-3-methylbutyl)-, benzyl ester
855940-79-3P, β-Alanine, N-(N-stearoyl-β-alanyl)-
855959-79-4P, 1-Hexadecanol, 3,7,11,15-tetramethyl-, ester with
choline chloride phosphate 856811-55-7P, Propionic acid,
3-(octadecyloxy)-, methyl ester 856983-74-9P, Propionamide,
2-(2-aminopropionamido)-N-octadecyl- 856983-83-0P, Propionamide,
2-amino-3-mercapto-N-octadecyl- 856984-05-9P, Propionamide,
3-(3-aminopropionamido)-N-octadecyl- 857230-57-0P, Propionamide,
2-amino-N-(10-cyclohexyldecyl)- 857434-64-1P,
1-Pyrrolidinecarboxylic acid, 2-octadecylcarbamoyl-, benzyl ester
857577-03-8P, β-Alanine, N-(9-(10-dihydroxyoctadecanoyl)-
857577-26-5P, β-Alanine, N-(N-stearoylglycyl)- 857976-38-6P,
Valeramide, 2-amino-4-methyl-N-octadecyl- 858254-33-8P, Glycine,
N-(N-stearoyl-β-alanyl)- 860708-12-9P, Taurine,
N-(N-stearoylglycyl)- 860708-15-2P, Taurine,
N-(N-stearoyl-β-alanyl)- 868289-22-9P, Alanine, N-stearoyl-,
ethyl ester 875230-80-1P, Propionamide, 3-(octadecyloxy)-
897045-23-7P, Alanine, N-(N-stearoylalanyl)-, ethyl ester
897045-27-1P, Alanine, N-(N-stearoylalanyl)- 897953-68-3P,
Arabonamide, N-tetradecyl-, L- 897953-71-8P, Arabonamide,
N-octadecyl-, L- 897954-70-0P, Asparagine, N-(N-stearoylglycyl)-
897958-07-5P, Aspartic acid, N-(N-stearoylglycyl)-
897959-42-1P, Arabonamide, N-decyl-, L- 897959-45-4P
, Arabonamide, N-hexadecyl-, L- 897959-96-5P, Aspartic anhydride,
N-(N-stearoylglycyl)- 911445-51-7P, Valeramide,
2-amino-N-hexadecyl-4-methyl-, L- 911655-13-5P, Glucuronamide,

N-(10-cyclohexyldecyl)-1,2-0-isopropylidene- 911655-15-7P,
 Glucuronamide, N-decyl-1,2-0-isopropylidene- 911655-17-9P,
 Glucuronamide, 1,2-0-isopropylidene-N-tetradecyl-
 911655-19-1P, Glucuronamide, N-tetradecyl- 911656-07-0P,
 Glucuronamide, 1,2-0-isopropylidene-N-octadecyl- 911656-11-6P,
 Glucuronamide, 1,2-0-isopropylidene- 911656-15-0P, Glucuronamide,
 N-hexadecyl-1,2-0-isopropylidene- 911656-20-7P, Glucuronamide,
 N-dodecyl-1,2-0-isopropylidene- 911656-25-2P, Glucuronamide,
 N-decyl- 911656-30-9P, Glucuronamide, N-(10-cyclohexyldecyl)-
 911656-33-2P, Glucuronamide, N-4-cyclohexylbutyl- 911656-65-0P,
 Glucuronic acid, 1,2-0-isopropylidene-, D, γ -lactone
 911662-18-5P, Glucosamine, N-stearoyl- 911669-73-3P,
 2-Pyrrolidinecarboxamide, N-octadecyl-, L- 911671-12-0P,
 Propionamide, 2-amino-N-hexadecyl-, L-
 (preparation of)

OS.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS RECORD (14 CITINGS)

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=> D L111 1-11 IFULL

L111 ANSWER 1 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
 ACCESSION NUMBER: 2006-532048 [55] WPIX
 DOC. NO. CPI: C2006-166649 [55]
 DOC. NO. NON-CPI: N2006-426121 [55]
 TITLE: Lubricant for metal mold adhesion, contains
 N,N'-alkylene bis(carboxylic acid
 monoamides) of beta-type crystal form
 DERWENT CLASS: E16; H07; M22; P53
 INVENTOR: ADACHI Y; FUJIKI A; MAEKAWA Y
 PATENT ASSIGNEE: (ASAE-C) ASAHI DENKA KOGYO KK; (NSMO-C) NISSAN MOTOR
 CO LTD; (YOKO-N) YOKO SANGYO KK
 COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 2006182964	A	20060713	(200655)*	JA	12[3]	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2006182964	A	JP 2004-379997	20041228

PRIORITY APPLN. INFO: JP 2004-379997 20041228

INT. PATENT CLASSIF.:

IPC ORIGINAL: B22F0003-03 [I,C]; B22F0003-035 [I,A]; C10M0105-00
 [I,C]; C10M0105-24 [I,A]; C10M0105-68 [I,A];
 C10M0111-00 [I,C]; C10M0111-02 [I,A]; C10N0010-02
 [N,A]; C10N0010-04 [N,A]; C10N0010-06 [N,A];
 C10N0010-08 [N,A]; C10N0010-10 [N,A]; C10N0010-14
 [N,A]; C10N0010-16 [N,A]; C10N0020-06 [N,A];

C10N0030-00 [N,A]; C10N0040-36 [N,A]; C10N0050-08
[N,A]

JAP. PATENT CLASSIF.:

MAIN/SEC.: B22F0003-035 E; C10M0105-24; C10M0105-68; C10M0111-02
INDEX: C10N0010:02; C10N0010:04; C10N0010:06; C10N0010:08;
C10N0010:10; C10N0010:14; C10N0010:16; C10N0020:06 Z;
C10N0030:00 Z; C10N0040:36; C10N0050:08
4H104; 4K018; 4H104/BB16.A; 4H104/BB17.A;
4H104/BE11.A; 4K018/CA08; 4H104/EA08.A; 4H104/FA01;
4H104/FA02; 4H104/FA03; 4H104/FA04; 4H104/FA05;
4H104/FA07; 4H104/FA08; 4H104/LA20; 4H104/PA48;
4H104/QA11

BASIC ABSTRACT:

JP 2006182964 A UPAB: 20060825

NOVELTY - A lubricant contains N,N'-alkylene bis(carboxylic acid monoamide) of beta-type crystal form.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for powder metallurgy method, which involves carrying out electrical charging adhesion of lubricant with respect to inner surface of metal mold.

USE - For metal mold adhesion in powder metallurgy (claimed).

ADVANTAGE - The lubricant has favorable electrical charging adhesion property. The adhesion of fixed quantity of lubricant with respect to inner surface of metal mold is enabled. The release property of molded product is improved.

TECHNOLOGY FOCUS:

ORGANIC CHEMISTRY - Preferred Composition: The ratio of alpha-type crystal form and beta-type crystal form of N,N'-alkylene bis(carboxylic acid monoamide) is

30:70-0:100. The lubricant further contains carboxylic acid metal salt and carboxylic acid monoamide

. Preferred Property: The lubricant has average particle diameter of 0.1-200 microns.

EXTENSION ABSTRACT:

EXAMPLE - N,N'-Ethylene bis(stearic acid monoamide) and lithium stearate were mixed in ratio of 70:30, and heated at 170-180degreesC for 5 minutes. The molten material was cooled and solidified. The solid product was ground, classified and refined to produce lubricant. The lubricant had favorable electrical charging adhesivity.

FILE SEGMENT: CPI; GMPI

MANUAL CODE: CPI: E10-D03A; H07-A02; M22-H03A

L111 ANSWER 2 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

ACCESSION NUMBER: 2006-341038 [35] WPIX

DOC. NO. CPI: C2006-112074 [35]

TITLE: Use of epoxidized ester for improving anti-corrosive, anti-fatigue and anti-wear properties of lubricants and hydrocarbon fuels

DERWENT CLASS: E13; H06

INVENTOR: MIGDAL C A; ROWLAND R G; MIGDAL C; ROWLAND R

PATENT ASSIGNEE: (CHEM-N) CHEM TURA CORP; (MIGD-I) MIGDAL C A; (ROWL-I) ROWLAND R G

COUNTRY COUNT: 110

PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG	MAIN IPC
US 20060090393	A1 20060504	(200635)*	EN	11[0]	
WO 2006049687	A1 20060511	(200635)	EN		

EP 1805284	A1	20070711 (200746)	EN
CN 101103098	A	20080109 (200833)	ZH
JP 2008518080	W	20080529 (200838)	JA 35

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20060090393	A1 Provisional	US 2004-623036P	20041029
US 20060090393	A1	US 2005-165857	20050624
CN 101103098 A		CN 2005-80037323	20050830
EP 1805284 A1		EP 2005-815628	20050830
WO 2006049687 A1		WO 2005-US31290	20050830
EP 1805284 A1		WO 2005-US31290	20050830
CN 101103098 A		WO 2005-US31290	20050830
JP 2008518080 W		WO 2005-US31290	20050830
JP 2008518080 W		JP 2007-538903	20050830

FILING DETAILS:

PATENT NO	KIND	PATENT NO	
EP 1805284	A1	Based on	WO 2006049687 A
CN 101103098	A	Based on	WO 2006049687 A
JP 2008518080	W	Based on	WO 2006049687 A

PRIORITY APPLN. INFO: US 2005-165857 20050624
US 2004-623036P 20041029

INT. PATENT CLASSIF.:

IPC ORIGINAL: C10L0001-10 [I,C]; C10L0001-10 [I,C]; C10L0001-14 [I,A]; C10L0001-18 [I,A]; C10L0001-18 [I,A]; C10L0001-19 [I,A]; C10L0010-00 [I,C]; C10L0010-04 [I,A]; C10L0010-08 [I,A]; C10L0010-08 [I,C]; C10M0101-00 [I,C]; C10M0101-02 [I,A]; C10M0101-04 [I,A]; C10M0105-00 [I,C]; C10M0105-04 [I,A]; C10M0105-06 [I,A]; C10M0105-18 [I,A]; C10M0105-36 [I,A]; C10M0105-38 [I,A]; C10M0105-52 [I,A]; C10M0105-72 [I,A]; C10M0107-00 [I,C]; C10M0107-02 [I,A]; C10M0107-34 [I,A]; C10M0107-50 [I,A]; C10M0129-00 [I,C]; C10M0129-66 [I,A]; C10M0129-76 [I,A]; C10M0133-00 [I,C]; C10M0133-48 [I,A]; C10M0135-00 [I,C]; C10M0135-16 [I,A]; C10M0135-18 [I,A]; C10M0135-20 [I,A]; C10M0141-00 [I,A]; C10M0141-00 [I,C]; C10M0141-02 [I,A]; C10M0169-00 [I,C]; C10M0169-04 [I,A]; C10N0030-06 [N,A]; C10N0030-12 [N,A]; C10N0040-04 [N,A]; C10N0040-08 [N,A]; C10N0040-20 [N,A]; C10N0040-25 [N,A]; C10N0040-30 [N,A]; C10M0129-66; C10M0141-00; C10M0141-02; M10M0207:10; M10M0207:24; M10M0207:283; M10M0207:287; M10M0207:289; M10M0207:40; M10M0215:08; M10M0215:223; M10M0215:28; M10M0219:062; M10M0219:064; M10M0219:066; M10M0219:09; M10M0219:104; M10M0219:106; M10M0227:09; M10N0230:12

USCLASS NCLM: 044/353.000

JAP. PATENT CLASSIF.:

MAIN/SEC.: C10M0101-02; C10M0101-04; C10M0105-04; C10M0105-06;
 C10M0105-18; C10M0105-36; C10M0105-38; C10M0105-52;
 C10M0105-72; C10M0107-02; C10M0107-34; C10M0107-50;
 C10M0129-66; C10M0129-76; C10M0133-48; C10M0135-16;
 C10M0135-18; C10M0135-20; C10M0169-04

INDEX: C10N0030:06; C10N0030:12; C10N0040:04; C10N0040:08;
 C10N0040:20; C10N0040:25; C10N0040:30

FTERM CLASSIF.: 4H104/4H104/BA02.A; 4H104/BA04.A; 4H104/BA07.A;
 4H104/BB08.A; 4H104/BB30.C; 4H104/BB33.A;
 4H104/BB34.A; 4H104/BB35.C; 4H104/BD01.A;
 4H104/BB31.C; 4H104/BG10.C; 4H104/BG11.A;
 4H104/BG11.C; 4H104/CB14.A; 4H104/CJ02.A;
 4H104/DA01.A; 4H104/DA02.A; 4H104/LA03; 4H104/LA06;
 4H104/PA02; 4H104/PA03; 4H104/PA05; 4H104/PA20;
 4H104/PA21; 4H104/PA41

BASIC ABSTRACT:

US 20060090393 A1 UPAB: 20090910

NOVELTY - Improving anti-corrosive, anti-fatigue and anti-wear properties of lubricants and hydrocarbon fuels involves adding at least one epoxidized ester.

DETAILED DESCRIPTION - Improving anti-corrosive, anti-fatigue and anti-wear properties of lubricants and hydrocarbon fuels involves adding at least one epoxidized ester of formula (I).

m=1 - 36;

R2=T;

T=hydrocarbyl group (optionally substituted by (cyclo(alkyl), alkenyl, aryl or alkoxy), H, OH, ether or epoxide;

R1 =T, R30-(CH2)n-CH2-, R30-CH(R5)-CH(R4)-, R30-R6-, -CH2-CH(R30)-CH2-OR7, -CH2-C(CH2-OR7)(CH2-OR3)(CH2-OR8), -R6-C(OR7)(R9)(OR3), -C(OR7)(R9)(OR3) or -C(CH2-OR7)(CH2-R30)(R9);

n=0 - 12;

R4, R5 and R9=H or hydrocarbyl;

R6=linear alkylene, branched alkylene, linear alkenyl or branched alkenyl;

R3, R7 and R8=H or R10-C(=O)=;

R10=optionally substituted hydrocarbyl.

An INDEPENDENT CLAIM is included for a composition comprising a lubricant or a hydrocarbon fuel and the epoxidized ester.

USE - For improving anti-corrosive, anti-fatigue and anti-wear properties of lubricants and hydrocarbon fuels (claimed).

ADVANTAGE - The epoxidized ester improves functional properties, imparts anti-corrosive properties to the lubricant which protects lead and copper from corrosion and imparts protection to the lubricated system against the corrosive tendencies of other additives that might otherwise be desirable to add to the lubricant. TECHNOLOGY FOCUS:

ORGANIC CHEMISTRY - Preferred Components: The composition further comprises an additive which is corrosive to lead and/or copper. The additive is selected from glycerol monooleate, partially hydrolyzed vegetable oils, full and partial esterification products of diols and polyols optionally with 6-36C carboxylic acids, 6-50C carboxylic acids, amides derived from 6-50C carboxylic acids, esters of hydroxypolycarboxylic acids, tetralkyl thiuram disulfides, thionamides, thiourea, dithiocarbamates, hydrazides, succinylhydrazides, 4-imidazolidine thiones, 1,3,4-oxadiazole-2(3H)-thiones, 1,3,4-thiadiazolane-2-thiones, 2,3-dihydro-1,3,4-oxadiazoles and mixed thio acid amide molybdenum complexes. The epoxidized ester is an epoxidized vegetable oil, epoxidized soybean oil, and/or epoxidized canola oil. The corrosive additive is glycerol monooleate, trimester of citric acid, dithiocarbamate and thiuram disulfides.

EXTENSION ABSTRACT:

SPECIFIC COMPOUNDS - Epoxidized 2-ethylhexyl tallate is specifically claimed as the epoxidized ester.
EXAMPLE - No relevant example given.

FILE SEGMENT: CPI
MANUAL CODE: CPI: E07-A03B; H06-D02; H06-D06

L111 ANSWER 3 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
ACCESSION NUMBER: 2005-589999 [60] WPIX
CROSS REFERENCE: 2007-385176
DOC. NO. CPI: C2005-177939 [60]
DOC. NO. NON-CPI: N2005-483902 [60]
TITLE: Screening lubricating oil composition for dispersancy useful in e.g. passenger car involves providing sample having major amount of base oil of lubricating viscosity, minor amount of lubricating oil additive and base oil-insoluble material
DERWENT CLASS: B04; H07; S03; T01; T06
INVENTOR: WOLLENBERG R H; WOLLENBERG R
PATENT ASSIGNEE: (CALI-C) CHEVRON ORONITE CO LLC; (WOLL-I) WOLLENBERG R H; (CALI-C) CHEVRON ORONITE CO
COUNTRY COUNT: 106

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 20050178190	A1	20050818	(200560)*	EN	14[2]	
WO 2005079278	A2	20050901	(200560)	EN		
EP 1718949	A2	20061108	(200673)	EN		
US 7137289	B2	20061121	(200677)	EN		
CN 1918464	A	20070221	(200747)	ZH		
JP 2007523975	W	20070823	(200760)	JA	22	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20050178190 A1		US 2004-779424	20040213
CN 1918464 A		CN 2005-80004649	20050210
EP 1718949 A2		EP 2005-713293	20050210
WO 2005079278 A2		WO 2005-US4262	20050210
EP 1718949 A2		WO 2005-US4262	20050210
JP 2007523975 W		WO 2005-US4262	20050210
JP 2007523975 W		JP 2006-553236	20050210

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1718949	A2	WO 2005079278
JP 2007523975	W	WO 2005079278

PRIORITY APPLN. INFO: US 2004-779424 20040213

INT. PATENT CLASSIF.:

IPC ORIGINAL: C10M0101-00 [I,C]; C10M0101-02 [I,A]; C10M0105-60 [I,C]; C10M0105-06 [I,A]; C10M0105-18 [I,A]; C10M0105-32 [I,A]; C10M0105-72

[I,A]; C10M0105-74 [I,A]; C10M0107-00 [I,C];
 ; C10M0107-02 [I,A]; C10M0107-06 [I,A]; C10M0107-08
 [I,A]; C10M0107-10 [I,A]; C10M0107-38 [I,A];
 C10M0107-50 [I,A]; C10M0125-00 [I,C]; C10M0125-02
 [I,A]; C10M0129-00 [I,C];
 C10M0129-34 [I,A]; C10M0133-00
 [I,C]; C10M0133-04 [I,A];
 C10M0133-16 [I,A]; C10M0133-44
 [I,A]; C10M0135-00 [I,C]; C10M0135-36 [I,A];
 C10M0137-00 [I,C]; C10M0137-16 [I,A]; C10M0139-00
 [I,A]; C10M0139-00 [I,C]; C10M0149-00 [I,C];
 C10M0149-22 [I,A]; C10M0159-00 [I,C]; C10M0159-16
 [I,A]; C10M0169-00 [I,C]; C10M0169-04 [I,A];
 C10N0030-04 [N,A]; C10N0040-04 [N,A]; C10N0040-08
 [N,A]; C10N0040-25 [N,A]; C10N0040-30 [N,A];
 G01N0011-00 [I,A]; G01N0011-00 [I,C]; G01N0033-26
 [I,C]; G01N0033-30 [I,A]

IPC RECLASSIF.: C40B0050-08 [N,A]; C40B0050-08 [N,C]; C40B0060-14
 [N,A]; C40B0060-14 [N,C]; G01N0011-00 [I,A];
 G01N0011-00 [I,C]; G01N0033-26 [I,C]; G01N0033-28
 [I,A]; G01N0035-00 [N,A]; G01N0035-00 [N,C]

ECLA: G01N0033-28H

ICO: L01J0219:00C10F; L01J0219:00C2B2B; L01J0219:00C4J;
 L01J0219:00C6F2; M40B0050:08; M40B0060:14;
 S01N0035:00A3B; S01N0035:00G3C1A; S01N0035:00R

USCLASS NCLM: 073/053.010

JAP. PATENT CLASSIF.:

MAIN/SEC.: C10M0101-02; C10M0105-06; C10M0105-18; C10M0105-32;
 C10M0105-72; C10M0105-74; C10M0107-02; C10M0107-06;
 C10M0107-08; C10M0107-10; C10M0107-38; C10M0107-50;
 C10M0125-02; C10M0129-34; C10M0133-04; C10M0133-16;
 C10M0133-44; C10M0135-36; C10M0137-16; C10M0139-00 A;
 C10M0149-22; C10M0159-16; C10M0169-04; G01N0033-30
 INDEX: C10N0030:04; C10N0040:04; C10N0040:08; C10N0040:25;
 C10N0040:30

FTERM CLASSIF.: 2G055; 4H104; 4H104/AA04.C; 4H104/BA04.A;
 4H104/BA07.A; 4H104/BB08.A; 4H104/BB18.C;
 4H104/BB31.A; 4H104/BB44.A; 4H104/BE01.C;
 4H104/BE11.C; 4H104/BE29.C; 4H104/BF01.C;
 4H104/BG11.A; 4H104/BG19.C; 4H104/BH03.A;
 4H104/BH14.C; 4H104/BJ05.C; 4H104/CD01.A;
 4H104/CJ02.A; 4H104/CJ04.A; 4H104/DA02.A;
 4H104/DB03.C; 4H104/EB02; 4H104/LA02; 4H104/PA02;
 4H104/PA05; 4H104/PA20; 4H104/PA41

BASIC ABSTRACT:

US 20050178190 A1 UPAB: 20051223

NOVELTY - Screening (M1) lubricating oil composition samples for dispersancy performance under program control, comprises: providing several lubricating oil composition samples, each comprising a major amount of at least one base oil of lubricating viscosity, minor amount of at least one lubricating oil additive, and a predetermined amount of base oil-insoluble material; measuring the dispersancy performance of each test sample; and outputting the results.

DETAILED DESCRIPTION - Screening (M1) lubricating oil composition samples for dispersancy performance under program control involves:

(a) providing several different lubricating oil composition samples, each sample comprising a major amount of at least one base oil of lubricating viscosity (i), a minor amount of at least one lubricating oil additive (ii), and a predetermined amount of a base oil-insoluble material (iii);

- (b) measuring the dispersancy performance of each test sample to provide corresponding dispersancy performance data results; and
- (c) outputting the results of step (b).

INDEPENDENT CLAIMS are also included for:

(1) a system for screening lubricant performance, under program control comprising: several test receptacles, each receptacle containing a different lubricating oil composition sample containing (i), (ii) and (iii); receptacle moving device for individually positioning the test receptacles in a testing station for measurement of dispersancy performance of the respective sample; and device for measuring the dispersancy performance of the sample in the testing station to obtain dispersancy performance data associated with the sample and for transferring the dispersancy performance data to a computer controller; and

(2) a combinatorial lubricating oil composition library comprising lubricating oil composition dispersancy data for several different lubricating oil compositions containing (i), and at least one lubricating oil additive.

USE - For screening lubricating oil composition samples for dispersancy performance under program control (claimed) useful in passenger cars and heavy-duty diesel engine oils.

ADVANTAGE - The method effectively screens lubricating oil composition samples and tests dispersancy of the composition automatically by utilizing small amounts of each sample. The method is more efficient, economical and provides a systematic approach for the preparation of lubricating oil compositions and screening of the compositions for information correlating to the actual useful properties of the composition. The method permits screening of many different composition samples in an efficient manner to determine optimal dispersancy characteristics of the samples.

TECHNOLOGY FOCUS:

MECHANICAL ENGINEERING - Preferred Components: The base oil is natural or synthetic oil. At least one lubricating oil additive is selected from antioxidants, anti-wear agents, detergents, rust inhibitors, de-hazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilizer, corrosion-inhibitors, ashless dispersants, dyes, and/or extreme pressure agents (preferably ashless dispersant). The base oil-insoluble material is a polar base oil-insoluble material (preferably sludge); or is natural soot, synthetic soot (preferably carbon black), varnish-forming material and/or water (preferably natural or synthetic soot). The sludge is recovered, used engine oil. The at least one lubricating oil additive further comprises a diluent oil.

Preferred Method: The step of measuring the dispersancy performance of each sample involves: either measuring the kinematic viscosity of each sample at a predetermined temperature; or applying to a respective piece of a chromatographic material at least one spot of each sample or dividing the sample into first and second portions, adding a predetermined amount of water to the second portion, applying to respective pieces of a chromatographic material at least three spots of each of the first and second portions of sample, heating selected spots to a predetermined temperature for a predetermined period of time; permitting the spot to elute into concentric rings; measuring an outer diameter of each ring and an inner diameter of each ring; calculating a ratio of inner diameter to outer diameter for the rings; and calculating dispersancy performance data based upon the ratios for the rings. (M1) further involves providing corresponding lubricating oil composition reference samples containing no base oil-insoluble material; measuring the kinematic viscosity of the corresponding reference samples; and determining the percentage difference between the

kinematic viscosity of the lubricating oil composition sample and the corresponding lubricating oil composition reference sample. The step of measuring the outer diameter of each ring and the inner diameter of each ring involves transmitting a light through light and dark areas of the chromatographic material (preferably filter paper). (M1) additionally involves: a step of homogenizing the samples prior to measuring the dispersancy performance. The step of homogenizing the samples is performed by mechanical stirring or by ultrasonic agitation. The step (c) of automatically outputting the results of step (b) involves converting the dispersancy performance data of step (b) into a digital signal and sending the digital signal to a microprocessor. The method further involves step of compiling the dispersancy performance data sent to the microprocessor in an electronically stored database and constructing from it a combinatorial lubricating oil composition library.

Preferred Composition: The lubricating oil composition sample has a volume not greater than 50 (preferably not greater than 20, especially not greater than 15, particularly not greater than 10) ml.

Preferred System: The system further comprises a bar code reader. The receptacle-moving device comprises a movable carriage, or a robotic assembly having a movable arm for grasping and moving a selected individual receptacle. The receptacle-moving device comprises device for agitating the test receptacles. In the system, each test receptacle has a bar code affixed to an outer surface.

POLYMERS - Preferred Components: The dispersant is polyalkylene succinic anhydrides; non-nitrogen containing derivative of a polyalkylene succinic anhydride; a basic nitrogen compound selected from succinimide, carboxylic acid amides, hydrocarbyl monoamines, hydrocarbyl polyamines, Mannich bases, phosphonamide, thiophosphonamide and phosphoramidate, thiazole, triazole, copolymers which contain a carboxylate ester with at least one additional polar function, borate post-treated succinimide, and/or ethylene carbonate post-treated succinimide.

FILE SEGMENT: CPI; EPI
 MANUAL CODE: CPI: B04-B01C; B04-C03; B11-C01A; B11-C06; B11-C08J;
 B11-C10A; B11-C11; B12-K04E; H07-J
 EPI: S03-E14F; S03-F03A; T01-J08A; T06-A08

L111 ANSWER 4 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

ACCESSION NUMBER: 2005-563982 [57] WPIX

DOC. NO. CPI: C2005-170409 [57]

DOC. NO. NON-CPI: N2005-462232 [57]

TITLE: Lubricant for use with metal powder
 in powder metallurgy for
 manufacturing sintered compacts, contains
 polyhydroxy carboxylic-acid
 amide

DERWENT CLASS: H07; M22; P53

INVENTOR: FUJISAWA K; FUJIURA T; HORIE K; KOJIMA M; SUZUKI H;
 YOSHIHARA T

PATENT ASSIGNEE: (KOBM-C) KOBE SEIKO SHO KK; (KOBM-C) KOBE STEEL LTD;
 (NIFI-N) NIPPON FINE CHEM CO LTD; (NISE-N) NIPPON
 SEIKA KK

COUNTRY COUNT: 106

PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG	MAIN IPC
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WO 2005068588	A1	20050728	(200557)*	JA	48[1]
KR 2006121254	A	20061128	(200735)	KO	
CN 1910266	A	20070207	(200743)	ZH	
US 20070154340	A1	20070705	(200746)	EN	
JP 2005517152	X	20070906	(200760)	JA	27
JP 4300217	B2	20090722	(200948)	JA	23

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005068588	A1	WO 2005-JP945	20050119
CN 1910266	A	CN 2005-80002769	20050119
JP 2005517152	X	JP 2005-517152	20050119
KR 2006121254	A	WO 2005-JP945	20050119
US 20070154340	A1	WO 2005-JP945	20050119
JP 2005517152	X	WO 2005-JP945	20050119
KR 2006121254	A	KR 2006-713060	20060629
US 20070154340	A1	US 2006-586631	20060719
JP 4300217	B2	JP 2005-517152	20050119
JP 4300217	B2	PCT Application	WO 2005-JP945 20050119

FILING DETAILS:

PATENT NO	KIND	PATENT NO
KR 2006121254	A	WO 2005068588
JP 2005517152	X	WO 2005068588
JP 4300217	B2	WO 2005068588

PRIORITY APPLN. INFO: JP 2004-11475 20040120

INT. PATENT CLASSIF.:

IPC ORIGINAL: B22F0001-00 [I,A]; B22F0001-00 [I,C]; B22F0003-02 [I,C]; B22F0003-02 [I,A]; B22F0003-02 [I,C]; B22F0003-12 [I,A]; B22F0003-12 [I,C]; C10M0105-00 [I,A]; C10M0105-00 [I,C]; C10M0105-24 [I,A]; C10M0105-26 [I,A]; C10M0105-68 [I,A]; C10M0129-00 [I,C]; C10M0129-40 [I,A]; C10M0133-00 [I,C]; C10M0133-16 [I,A]; C10N0010-04 [N,A]; C10N0020-06 [N,A]; C10N0030-02 [N,A]; C10N0030-06 [N,A]

IPC RECLASSIF.: B22F0001-00 [I,A]; B22F0001-00 [I,C]; C10M0105-00 [I,C]; C10M0105-00 [I,C]; C10M0105-68 [I,A]; C10M0105-68 [I,A]

ECLA: B22F0001-00A4; C10M0105-68
 ICO: M10M0207:125B; M10M0215:08B; M10M0215:08B+2;
 M10N0220:082; M10N0240:40; M10N0240:404

USCLASS NCLM: 419/036.000

JAP. PATENT CLASSIF.:

MAIN: C10M0105-68
 SECONDARY: B22F0003-02 M; C10M0105-26; C10M0129-40; C10M0133-16
 INDEX: C10N0040:00 Z; C10N0040:36; C10N0050:08

BASIC ABSTRACT:

WO 2005068588 A1 UPAB: 20090728

NOVELTY - A lubricant contains a polyhydroxy carboxylic-acid amide (1).

DETAILED DESCRIPTION - A lubricant contains a polyhydroxy carboxylic-acid amide of formula (1).

R1=2-20C alkyl substituted by 2 or more hydroxyl groups;

R2=8-30C hydrocarbon; and

R3=H or 1-30C hydrocarbon.

INDEPENDENT CLAIMS are included for the following:

(1) mixed powder containing a mixture of the lubricant and a metal powder; and

(2) manufacture of sintered compact, which involves compression-molding and sintering the mixed powder.

USE - In mixed powder used in powder metallurgy for manufacturing sintered compacts (all claimed).

ADVANTAGE - The lubricant imparts both flowability and lubricity regardless of whether a complicated pre-treatment step is conducted or not.

TECHNOLOGY FOCUS:

ORGANIC CHEMISTRY - Preferred Property: The lubricant has an average particle diameter of 1-300 microns. Preferred Composition: The lubricant further contains an auxiliary lubricant chosen from metal soap, alkylene bis fatty-acid amide, and fatty-acid amide of formula (2). The lubricant further contains a fatty acid.

R4=7-29C hydrocarbon; and

R5=R3.

The mass ratio of polyhydroxy carboxylic-acid amide and auxiliary lubricant is 30/70-100/0. The mass ratio of the sum total of polyhydroxy carboxylic-acid amide and fatty acid, and the auxiliary lubricant is 30/70-100/0. The mass ratio of polyhydroxy carboxylic-acid amide and fatty acid is 20/80-100/0. Preferred Compounds: The fatty-acid amide is hexadecanoic acid (N-octadecenyl) amide or (N-octadecyl) docosenoic acid amide. The fatty acid is 16-22C saturated-fat group monocarboxylic acid.

EXTENSION ABSTRACT:

DEFINITIONS - Preferred Definitions: - R1=5C alkyl substituted by hydroxyl groups; and - R3=H.

SPECIFIC COMPOUNDS - The polyhydroxy carboxylic-acid amide is aldonic acid amide.

EXAMPLE - (N-hexyl) glyceric acid amide was mixed with Atmel 300M (enameled-iron powder) for 30 minutes. The obtained mixed powder had an apparent density of 3.44 g/cm³ as measured by JIS Z 2504, a fluidity of 30.6 second/50 g as measured by JIS Z 2502, a limit-outflow diameter of 35 mm, a compact density of 6.87 g/cm³, and an extract pressure of 15.3 MPa.

FILE SEGMENT: CPI; GMPI

MANUAL CODE: CPI: H07-A02; H07-X; M22-H02; M22-H03

L111 ANSWER 5 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

ACCESSION NUMBER: 2005-173094 [18] WPIX

CROSS REFERENCE: 2005-163224; 2005-173093

DOC. NO. CPI: C2005-055692 [18]

DOC. NO. NON-CPI: N2005-144345 [18]

TITLE: System e.g. internal combustion engine, contains lubricating oil containing specific base oil with a preset amount of sulfur and aromatic compound, interposed between contacting surfaces coated with diamond writer carbon

DERWENT CLASS: A17; A97; H07; Q51; Q64

INVENTOR: ISHIKAWA T; KANO M; KONISHI S; UENO T

December 11, 2009

10/586,631

150

PATENT ASSIGNEE: (NIOC-C) NIPPON OIL CORP; (NSMO-C) NISSAN MOTOR CO LTD
 COUNTRY COUNT: 107

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2005014763	A1	20050217	(200518)*	JA	47[0]	
EP 1661971	A1	20060531	(200636)	EN		
CN 1863895	A	20061115	(200720)	ZH		
US 20070060483	A1	20070315	(200722)	EN		
JP 2005512976	X	20071011	(200768)	JA	56	
CN 100447224	C	20081231	(200944)	ZH		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005014763 A1		WO 2004-JP11375	20040806
CN 1863895 A		CN 2004-80029038	
20040806			
EP 1661971 A1		EP 2004-771374	20040806
EP 1661971 A1		WO 2004-JP11375	20040806
US 20070060483 A1		WO 2004-JP11375	20040806
JP 2005512976 X		WO 2004-JP11375	20040806
JP 2005512976 X		JP 2005-512976	20040806
US 20070060483 A1		US 2006-567311	20060511
CN 100447224 C		CN 2004-80029038	
20040806			

FILING DETAILS:

PATENT NO	KIND	PATENT NO
EP 1661971	A1	Based on WO 2005014763 A
JP 2005512976	X	Based on WO 2005014763 A

PRIORITY APPLN. INFO: JP 2003-297686 20030821
 JP 2003-206197 20030806
 JP 2003-206199 20030806

INT. PATENT CLASSIF.:

SECONDARY: C10M0101-02; C10M0107-02; C10M0129-00;
 C10M0133-00; C10M0135-00; C10M0137-00;
 C10M0159-20; C10M0169-04; C10N0010-04; C10N0010-12;
 C10N0020-02; C10N0030-04; C10N0030-06; C10N0030-08;
 C10N0040-04; C10N0040-25; F01M0011-00; F16H0057-04
 C01G0039-00 [I,C]; C01G0039-06 [I,A]; C10M0101-00
 [I,C]; C10M0101-00 [I,C]; C10M0105-00 [I,C];
 ; C10M0105-04 [I,A]; C10M0107-00 [I,C];

C10M0125-00 [I,C]; C10M0125-26 [I,A];
 C10M0129-00 [I,C]; C10M0129-00
 [I,C]; C10M0129-02 [I,A];
 C10M0129-54 [I,A]; C10M0129-86
 [I,A]; C10M0133-00 [I,C];
 C10M0133-00 [I,C]; C10M0133-04
 [I,A]; C10M0133-16 [I,A];
 C10M0133-54 [I,A]; C10M0133-56
 [I,A]; C10M0135-00 [I,C]; C10M0135-00 [I,C];
 C10M0135-18 [I,A]; C10M0137-00 [I,A]; C10M0137-00

[I,C]; C10M0137-02 [I,A]; C10M0137-10 [I,A]; C10M0159-00 [I,C]; C10M0159-18 [I,A]; C10M0159-20 [I,A]; C10M0169-00 [I,C]; C10M0169-00 [I,C]; C10N0010-04 [I,A]; C10N0010-12 [I,A]; C10N0020-02 [I,A]; C10N0030-04 [I,A]; C10N0030-06 [I,A]; C10N0030-08 [I,A]; C10N0040-04 [I,A]; C10N0040-25 [I,A]; F01M0011-00 [I,C]; F16H0057-04 [I,C]; C10M0101-00 [I,C]; C10M0101-02 [I,A]; C10M0101-02 [I,A]; C10M0107-00 [I,C]; C10M0107-02 [I,A]; C10M0129-00 [I,A]; C10M0129-00 [I,C]; C10M0133-00 [I,A]; C10M0133-00 [I,A]; C10M0135-00 [I,A]; C10M0135-00 [I,A]; C10M0169-00 [I,C]; C10M0169-04 [I,A]; C10M0169-04 [I,A]; C10M0169-04 [I,A]; F01M0011-00 [I,A]; F01M0011-00 [I,A]; F01M0011-00 [I,C]; F16H0057-04 [I,A]; F16H0057-04 [I,C]; F16H0057-04 [I,C]; F16H0057-04 [I,C]; M10M0201:087+M10N210/02; M10M0203:10B+M10N220/022; M10M0205:02B+M10N220/022; M10M0205:17B+M10N220/022; M10M0207:02; M10M0207:04; M10M0207:08; M10M0207:10; M10M0207:144+M10N210/02; M10M0207:28; M10M0207:32; M10M0207:34; M10M0215:02; M10M0215:08; M10M0219:068+M10N210/06; M10M0223:02; M10M0223:045+M10N210/02; M10M0227:09+M10N210/06; M10N0210:02; M10N0210:03; M10N0220:022; M10N0230:04; M10N0230:06; M10N0230:08; M10N0240:04; M10N0240:10; M10N0260:14; M10N0280:00

ECLA:
ICO:

USCLASS NCLM: 508/167.000

BASIC ABSTRACT:

WO 2005014763 A1 UPAB: 20090710

NOVELTY - The system has relatively movable contacting surfaces, and surface(s) covered with diamond writer carbon. A lubricating oil containing molybdenum complex and base oil (A), is interposed between contacting surfaces. Oil (A) contains hydrocracking mineral oil(s), wax isomerization mineral oil and poly-alpha-olefinic base oil, and has viscosity of 2-20 mm²/second. Oil contains preset amount of aromatic compound and sulfur.

DETAILED DESCRIPTION - The system has relatively movable contacting surfaces, which are opposed with each other. At least one contacting surface is covered with diamond writer carbon (DLC). A lubricating oil containing a base oil (A), is interposed between contacting surfaces. The base oil (A) contains hydrocracking mineral oil(s), a wax isomerization mineral oil and poly-alpha-olefinic base oil, and has kinetic viscosity of 2-20 mm²/second at 100degreesC. The base oil contains aromatic compound (in mass%) (5 or less) and sulfur (0.005 or less). The lubricating oil further contains sulfur-containing molybdenum complex.

INDEPENDENT CLAIMS are also included for the following:

- (1) lubrication of the system; and
- (2) lubricating oil for system.

USE - E.g. internal combustion engine having contacting surfaces such as piston, piston ring, cylinder bush, connecting rod, crank shaft, bearing, metal gear, chain, belt and oil pump.

ADVANTAGE - The system has favorable low friction characteristics with respect to contacting surfaces, due to lubrication by lubricating oil. TECHNOLOGY FOCUS:

ORGANIC CHEMISTRY - Preferred Oil: The lubricating oil contains metal-type cleaning agent, phosphorus-type anti-wear agent and a friction regulator. The friction

regulator contains 1-40C ester, amine, amide, alcohol, ether, carboxylic acid, ketone, aldehyde and/or carbonate, and oxygen-containing organic compound and/or aliphatic amine. Metal-type cleaning agent contains alkaline earth metal salicylate or perbasic metal-group cleaning agent. Phosphorus-type anti-wear agent contains dithio zinc phosphate.

FILE SEGMENT: CPI; GMPI

MANUAL CODE: CPI: A04-G01E; A12-W02; H07-B01

L111 ANSWER 6 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
 ACCESSION NUMBER: 2003-903134 [82] WPIX
 DOC. NO. CPI: C2003-256607 [82]
 TITLE: Article of manufacture, e.g. wax, used to formulate paints and coatings, comprises copolymer of ethylene and vinyl aromatic monomer having a backbone with terminal methyl group and terminal vinyl group
 DERWENT CLASS: A13; A17; A89; A97; G02; G03; G08; H07; P84
 INVENTOR: CHEUNG Y; CHEUNG Y W; GUEST M; GUEST M J; KARJALA T; KARJALA T P; KOLTHAMMER B W; KOLTHAMMER B W S; KOLTHAMMER B W W; ROSEN R; ROSEN R K; UELIGGER S; UELIGGER S M; YALVAC S; CHEUNG W; GUEST J; KOLTHAMMER B; KOLTHAMMER W S; ROSEN K; UELIGGER M
 PATENT ASSIGNEE: (DOWC-C) DOW GLOBAL TECHNOLOGIES INC
 COUNTRY COUNT: 96

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2003087178	A1	20031023	(200382)*	EN	71[0]	
	<--					
AU 2003221701	A1	20031027	(200436)	EN		
	<--					
EP 1495059	A1	20050112	(200504)	EN		
JP 2005522540	W	20050728	(200549)	JA	58	
US 20050165192	A1	20050728	(200550)	EN		
EP 1495059	B1	20060524	(200635)	EN		
DE 60305473	E	20060629	(200643)	DE		
ES 2262992	T3	20061201	(200680)	ES		
DE 60305473	T2	20061130	(200716)	DE		
US 7259219	B2	20070821	(200755)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003087178	A1	WO 2003-US10844	20030409
US 20050165192	A1 Provisional	US 2002-372495P	20020412
US 7259219	B2 Provisional	US 2002-372495P	20020412
AU 2003221701	A1	AU 2003-221701	20030409
DE 60305473	E 20030409	DE 2003-60305473	
DE 60305473	T2 20030409	DE 2003-60305473	
EP 1495059	A1	EP 2003-718280	20030409
EP 1495059	B1	EP 2003-718280	20030409
DE 60305473	E	EP 2003-718280	20030409
ES 2262992	T3	EP 2003-718280	20030409
DE 60305473	T2	EP 2003-718280	20030409
JP 2005522540	W	JP 2003-584133	20030409

US 20050165192 A1	US 2004-509212 20040924
US 7259219 B2	US 2004-509212 20040924
EP 1495059 A1 PCT Application	WO 2003-US10844 20030409
JP 200522540 W PCT Application	WO 2003-US10844 20030409
US 20050165192 A1 PCT Application	WO 2003-US10844 20030409
EP 1495059 B1 PCT Application	WO 2003-US10844 20030409
DE 60305473 E PCT Application	WO 2003-US10844 20030409
DE 60305473 T2 PCT Application	WO 2003-US10844 20030409
US 7259219 B2 PCT Application	WO 2003-US10844 20030409

FILING DETAILS:

PATENT NO	KIND	PATENT NO		
DE 60305473	E	Based on	EP 1495059	A
ES 2262992	T3	Based on	EP 1495059	A
DE 60305473	T2	Based on	EP 1495059	A
AU 2003221701	A1	Based on	WO 2003087178	A
EP 1495059	A1	Based on	WO 2003087178	A
JP 200522540	W	Based on	WO 2003087178	A
EP 1495059	B1	Based on	WO 2003087178	A
DE 60305473	E	Based on	WO 2003087178	A
DE 60305473	T2	Based on	WO 2003087178	A
US 7259219	B2	Based on	WO 2003087178	A

PRIORITY APPLN. INFO: US 2002-372495P 20020412
US 2004-509212 20040924

INT. PATENT CLASSIF.:

MAIN:	C08F0210-02; C09J0123-08
SECONDARY:	C08F0212-00; C08F0212-04; C08F0008-00; G03G0009-087
IPC ORIGINAL:	C08F0012-00 [I,C]; C08F0012-06 [I,A]; C08F0012-08 [I,A]; C08F0210-00 [I,C]; C08F0210-00 [I,C]; C08F0210-00 [I,C]; C08F0210-02 [I,A]; C08F0210-02 [I,A]; C08F0212-00 [I,A]; C08F0212-00 [I,A]; C08F0212-00 [I,C]; C08F0008-00 [I,A]; C08F0008-00 [I,A]; C08F0008-00 [I,C]
IPC RECLASSIF.:	C08F0012-00 [I,C]; C08F0012-02 [I,A]; C08F0210-00 [I,C]; C08F0210-02 [I,A]; C08F0212-00 [I,C]; C08F0212-04 [I,A]; C08F0008-00 [I,A]; C08F0008-00 [I,C]; C09J0123-00 [I,C]; C09J0123-08 [I,A]; C10M0143-00 [I,C]; C10M0143-10 [I,A]; G03G0009-087 [I,A]; G03G0009-087 [I,C]

ECLA:	C08F0212-04; C08F0008-00+210/02; C08F0008-00+212/00
ICO:	M08F0210:02+M08F212/08+LMW+WAX+MWDN
USCLASS NCLM:	526/346.000
NCLS:	508/591.000; 526/348.000; 526/352.000

JAP. PATENT CLASSIF.:

MAIN/SEC.:	C08F0210-02; C08F0212-04; C08F0008-00; C09J0123-08; G03G0009-08 325
FTERM CLASSIF.:	2H005; 4J040; 4J100; 2H005/AA01; 4J100/AA02.P; 4J100/AA03.P; 4J100/AA04.P; 4J100/AA17.P; 4J100/AB02.Q; 4J100/AB03.Q; 4J100/AB04.Q; 4J100/AB08.Q; 4J100/AB15.Q; 4J100/AB16.Q; 4J100/AR11.R; 4J100/BA03.H; 4J100/BA16.H; 4J100/BA56.H; 4J100/BB01.H; 4J100/BC54.H; 4J100/BC55.H; 2H005/CA03; 4J100/CA04; 4J100/CA05; 4J100/CA31; 4J100/DA01; 4J100/DA02; 4J040/DA03.1; 4J100/DA44; 4J040/DB001.2; 2H005/EA07; 4J100/FA08; 4J100/FA19; 4J100/FA28; 4J100/HA01; 4J100/HA03; 4J100/HA22; 4J100/HA27; 4J100/HA29; 4J100/HA35;

4J100/HA37; 4J100/HA61; 4J100/HB04; 4J100/HB05;
 4J100/HB08; 4J100/HC13; 4J100/HC27; 4J100/HC28;
 4J100/HC30; 4J100/HC33; 4J100/HC43; 4J100/HC50;
 4J100/HC69; 4J100/HC71; 4J100/HC78; 4J100/HE14;
 4J100/HE32; 4J100/HE41; 4J100/JA03; 4J100/JA07;
 4J100/JA09; 4J100/JA15; 4J040/JB01

BASIC ABSTRACT:

WO 2003087178 A1 UPAB: 20080920

NOVELTY - An article of manufacture comprises a copolymer of ethylene and vinyl aromatic monomer having a molecular weight of less than 15000. The copolymer has a backbone having a first terminal group which is methyl and a second terminal group which is vinyl.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for functionalization of a polymer comprising obtaining a copolymer of ethylene and vinyl aromatic monomer having a molecular weight of less than 15000, and effectuating functionalization of the vinyl to make a functionalized copolymer.

USE - The article of manufacture is wax, hot melt adhesive, electrostatic toner or lubricant. The wax is used to formulate paints and coatings, printing inks, carbon paper, photo toners, building an construction material, mold release agent, hot melt adhesive, and candle. The wax may also be used in wood processing, metal working, powder metallurgy and sintering, wax modeling, sizing, and crop protection.

ADVANTAGE - The invention has ethylene styrene copolymer having unique properties and lower molecular weight. TECHNOLOGY FOCUS:

POLYMERS - Preferred Component: The backbone of copolymer is free of vinylidene. The copolymer includes a functional group, preferably halogen, hydroxyl, anhydride, amine, amide, carboxylic acid, ether or nitrile. Preferred

Method: The functionalization is chlorination, epoxidation, oxidation, carboxylation or sulfonation. Preferred Composition: The ratio of terminal methyl group to the terminal vinyl group is 0.8:1-1:0.8.

EXTENSION ABSTRACT:

EXAMPLE - A metal precursor solution was 10 mM solution of Zr(CH₂Ph)₄, Hf(CH₂Ph)₄, Zr(NMe₂)₄ or Hf(NMe₂)₄ in toluene. The ligand solution was 25 mM solution of the representative ligands in toluene (0.80 μ mol) prepared in array of glass vials by dispensing 0.032 ml of 25 mM ligand solution. 0.040 ml Metal precursor solution was added to the vial to form the metal-ligand combination solution. The reaction mixture was heated to 70 $^{\circ}$ C for 1 hour, after which time the products were cooled to ambient temperature. 500 mM solution of 1-octene in toluene was added to the ligand-metal composition. An amount of group 13-reagent solution was added to 1 ml vial. This mixture was held at room temperature for 1 minute, during which time 0.420 ml styrene followed immediately by 0.380 ml of toluene, were injected to the reaction vessel. An activator solution was added to the vial. After 30 seconds, a fraction of the total volume of the vial contents was injected in the vessel, followed immediately by approximately 0.7 ml toluene, to bring the total solution volume in the vessel to 5.5 ml. The polymerization and product work-up were then performed.

FILE SEGMENT: CPI; GMPI

MANUAL CODE: CPI: A04-C01A; A04-G08; A10-E01; G02-A04A; G02-A05; G03-B02D3; G05-D; G06-G05; H07-A

L111 ANSWER 7 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

ACCESSION NUMBER: 2002-732708 [79] WPIX

DOC. NO. CPI: C2002-207294 [79]

TITLE: Lubricant concentrate comprising a

nitrogen-free alcohol, useful for lubricating chain conveyors in the food industry, includes a nitrogen-containing organic compound and/or an organic acid

DERWENT CLASS: A88; D22; E19; H07
 INVENTOR: KUEPPER S; KUPPER S; SCHNEIDER M
 PATENT ASSIGNEE: (ECOL-N) ECOLAB GMBH & CO OHG; (ECON-C) ECOLAB INC;
 (HENK-C) HENKEL ECOLAB GMBH & CO OHG; (KUPP-I) KUPPER S; (SCHN-I) SCHNEIDER M
 COUNTRY COUNT: 29

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2002064713	A1	20020822	(200279)*	DE	29[0]	
	<--					
DE 10106954	A1	20020905	(200279)	DE		
	<--					
EP 1360267	A1	20031112	(200377)	DE		
	<--					
BR 2002007282	A	20040210	(200414)	PT		
	<--					
US 20040097383	A1	20040520	(200434)	EN		
	<--					
JP 2004521978	W	20040722	(200448)	JA	42	
	<--					
EP 1360267	B1	20060913	(200661)	DE		
DE 50208132	G	20061026	(200672)	DE		
US 7462584	B2	20081209	(200910)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002064713 A1		WO 2002-EP1193	20020206
DE 10106954 A1		DE 2001-10106954	
20010215			
BR 2002007282 A		BR 2002-7282	20020206
DE 50208132 G		DE 2002-50208132	
20020206			
EP 1360267 A1		EP 2002-716728	20020206
EP 1360267 B1		EP 2002-716728	20020206
DE 50208132 G		EP 2002-716728	20020206
JP 2004521978 W		JP 2002-565031	20020206
EP 1360267 A1		WO 2002-EP1193	20020206
BR 2002007282 A		WO 2002-EP1193	20020206
US 20040097383 A1		WO 2002-EP1193	20020206
JP 2004521978 W		WO 2002-EP1193	20020206
EP 1360267 B1		WO 2002-EP1193	20020206
DE 50208132 G		WO 2002-EP1193	20020206
US 20040097383 A1		US 2003-467702	20030815
US 7462584 B2 PCT Application		WO 2002-EP1193	20020206
US 7462584 B2		US 2003-467702	20030815

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 50208132	G	Based on EP 1360267 A

EP 1360267	A1	Based on	WO 2002064713	A
BR 2002007282	A	Based on	WO 2002064713	A
JP 2004521978	W	Based on	WO 2002064713	A
EP 1360267	B1	Based on	WO 2002064713	A
DE 50208132	G	Based on	WO 2002064713	A
US 7462584	B2	Based on	WO 2002064713	A

PRIORITY APPLN. INFO: DE 2001-10106954 20010215

INT. PATENT CLASSIF.:

MAIN:	C10M0173-02
SECONDARY:	C10M0105-12; C10M0105-14; C10M0105-18; C10M0105-34; C10M0105-38; C10M0105-40; C10M0129-32; C10M0129-40; C10M0133-06; C10M0133-08
IPC ORIGINAL:	C10M0129-00 [I,C]; C10M0129-00 [I,C]; C10M0129-06 [N,A]; C10M0129-06 [I,A]; C10M0129-08 [N,A]; C10M0129-08 [I,A]; C10M0129-16 [N,A]; C10M0129-16 [I,A]; C10M0129-26 [I,A]; C10M0129-32 [I,A]; C10M0129-40 [I,A]; C10M0129-70 [N,A]; C10M0129-70 [I,A]; C10M0129-74 [N,A]; C10M0129-74 [I,A]; C10M0131-00 [I,C]; C10M0131-10 [I,A]; C10M0133-00 [I,C]; C10M0133-00 [I,C]; C10M0133-06 [I,A]; C10M0133-06 [I,A]; C10M0133-08 [I,A]; C10M0169-00 [I,C]; C10M0169-04 [I,A]; C10M0173-02 [I,C]; C10M0173-02 [I,A]; C10M0173-02 [I,A]; C10M0173-02 [I,A]; C10M0173-02 [I,C]; C10N0040-00 [N,A]; C10N0040-00 [I,A]

IPC RECLASSIF.:	C10M0105-00 [I,C]; C10M0105-12 [I,A]; C10M0105-14 [I,A]; C10M0105-18 [I,A]; C10M0105-34 [I,A]; C10M0105-38 [I,A]; C10M0105-40 [I,A]; C10M0129-00 [I,C]; C10M0129-32 [I,A]; C10M0129-40 [I,A]; C10M0133-00 [I,C]; C10M0133-06 [I,A]; C10M0133-08 [I,A]; C10M0173-02 [I,A]; C10M0173-02 [I,C]; C10N0030-16 [N,A]; C10N0040-00 [N,A]; C10N0050-04 [N,A]
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ECLA: C10M0173-02; C10M0173-02B

USCLASS NCLM: 508/233.000; 508/530.000

NCLS: 508/459.000; 508/583.000

JAP. PATENT CLASSIF.:

MAIN/SEC.:	C10M0105-12; C10M0105-14; C10M0105-18; C10M0105-34; C10M0105-38; C10M0105-40; C10M0129-32; C10M0129-40; C10M0133-06; C10M0133-08; C10M0173-02
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INDEX: C10N0030:16; C10N0040:00 Z; C10N0050:04

FTERM CLASSIF.:	4H104; 4H104/BB02.A; 4H104/BB04.A; 4H104/BB08.A; 4H104/BB16.C; 4H104/BB17.C; 4H104/BB32.A; 4H104/BB34.A; 4H104/BB35.A; 4H104/BE02.C; 4H104/BE04.C; 4H104/EB12; 4H104/LA08; 4H104/PA50; 4H104/QA01; 4H104/QA09
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BASIC ABSTRACT:

WO 2002064713 A1 UPAB: 20050527

NOVELTY - A lubricant concentrate (I) comprising a nitrogen-free alcohol component selected from mono-, di- and trihydroxy compounds and their esters includes:

(a) a nitrogen-containing organic compound having at most 14C atoms and at most 8C directly connected C atoms; and/or
(b) an organic acid having 1-18C atoms.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a method for maintaining the smooth running of chain conveyors by computer-controlled application of (I) at predetermined positions on the conveyor and periodic application of cleaning agents and/or wash water; and

(2) a system for maintaining the smooth running of chain conveyors, comprising (I), a cleaning agent, and a lubricating and cleaning apparatus comprising:

(i) a lubricant tank connected via pumps and pipework to one or more lubricant applicators;
(ii) a cleaning agent tank connected via pumps and pipework to one or more cleaning agent applicators; and
(iii) a device for controlling the application cycles and amounts applied.

USE - (I) or (I)-containing solutions are useful for lubricating chain conveyors for transporting plastic, cardboard, metal and glass containers, especially in the food processing industry, especially where the plastic containers are made of polyethylene terephthalate, polyethylene naphthalene, polycarbonate or polyvinyl chloride. TECHNOLOGY FOCUS:

ORGANIC CHEMISTRY - Preferred Components: The alcohol comprises glycerol.

Component (a) is mono-, di- or triethanolamine.

Component (b) comprises acetic and/or caproic acid.

The concentrate (I) further comprises an antimicrobial component selected from alcohols, aldehydes, acids, carboxylate esters, amides, phenols, phenol derivatives, diphenyls, diphenylalkanes, urea derivatives, oxygen, nitrogen acetals and formals, benzamidines, isothiazolines, phthalimide derivatives, pyridine derivatives, surfactants, guanidines, amphoteric compounds, quinolines, 1,2-dibromo-2,4-dicyanobutane, iodo-2-propynyl butylcarbamate, iodine, iodophores, peroxides and peracids.

EXTENSION ABSTRACT:

EXAMPLE - A typical composition comprised 70% glycerol, 2% triethanolamine, 2% caprylic acid and 26% water.

FILE SEGMENT: CPI

MANUAL CODE: CPI: A11-C06; A12-P01B; D09-A; E10-B03B2; E10-B04;
E10-C04E; E10-C04J2U; E10-C04L1; E10-E04G; E10-E04H;
E10-E04J; E10-E04K; E10-E04L; E10-E04M; H07-A; H07-F;
H07-G09

L111 ANSWER 8 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
ACCESSION NUMBER: 2002-154568 [20] WPIX

DOC. NO. CPI: C2002-048261 [20]

TITLE: Lubricant composition, e.g. for car engine oil, comprises a lubricant and molybdenum-containing compound(s) in the form of surface-capped nanosized particles

DERWENT CLASS: E12; H07

INVENTOR: BAKUNIN V N; KUZ'MINA G N; KUZMINA G N; MIGDAL C A;
PARENAGO O P; STOTT P E; SUSLOV A Y; VEDENEVA L M;
SUSLOV A YU

PATENT ASSIGNEE: (BAKU-I) BAKUNIN V N; (CROM-N) CROMPTON CORP;
(KUZM-I) KUZMINA G N; (MIGD-I) MIGDAL C A; (PARE-I)
PARENAGO O P; (STOT-I) STOTT P E; (SUSL-I) SUSLOV A

December 11, 2009

10/586,631

158

Y; (VEDE-I) VEDENEVA L M; (CHEM-N) CHEM TURA CORP
 COUNTRY COUNT: 32

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN	IPC
WO 2001094504	A2	20011213	(200220)*	EN	70[5]		
	<--						
AU 2001059676	A	20011217	(200225)	EN			
	<--						
EP 1287008	A2	20030305	(200319)	EN			
	<--						
JP 2003535956	W	20031202	(200382)	JA	79		
	<--						
BR 2001011238	A	20031223	(200406)	PT			
	<--						
MX 2002011855	A1	20030301	(200413)	ES			
	<--						
US 6878676	B1	20050412	(200525)	EN			
US 20050065044	A1	20050324	(200526)	EN			
IN 2002MNO1579	P3	20041211	(200530)	EN			
	<--						
RU 2287556	C2	20061120	(200677)	RU			
JP 2009256684	A	20091105	(200975)	JA	38		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001094504 A2		WO 2001-US14982	20010508
AU 2001059676 A		AU 2001-59676	20010508
BR 2001011238 A		BR 2001-11238	20010508
EP 1287008 A2		EP 2001-933234	20010508
EP 1287008 A2		WO 2001-US14982	20010508
JP 2003535956 W		WO 2001-US14982	20010508
BR 2001011238 A		WO 2001-US14982	20010508
MX 2002011855 A1		WO 2001-US14982	20010508
US 6878676 B1		WO 2001-US14982	20010508
US 20050065044 A1		WO 2001-US14982	20010508
IN 2002MNO1579 P3		WO 2001-US14982	20010508
RU 2287556 C2		WO 2001-US14982	20010508
JP 2003535956 W		JP 2002-502049	20010508
RU 2287556 C2		RU 2002-135649	20010508
IN 2002MNO1579 P3		IN 2002-MN1579	20021108
MX 2002011855 A1		MX 2002-11855	20021129
US 6878676 B1		US 2003-275139	20030318
US 20050065044 A1		US 2003-275139	20030318
JP 2009256684 A Div Ex		JP 2002-502049	20010508
JP 2009256684 A		JP 2009-181191	20090804

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001059676	A	Based on
EP 1287008	A2	Based on
JP 2003535956	W	Based on
BR 2001011238	A	Based on
MX 2002011855	A1	Based on

US 6878676	B1	Based on	WO 2001094504	A
RU 2287556	C2	Based on	WO 2001094504	A

PRIORITY APPLN. INFO: US 2000-203573P 20000602
US 2003-275139 20030318

INT. PATENT CLASSIF.:

MAIN:	C07F0011-00; C10M0169-04
SECONDARY:	C10M0101-02; C10M0105-36; C10M0105-38; C10M0159-18
INDEX:	C10N0010:12; C10N0020:06; C10N0030:06; C10N0030:10; C10N0040:04; C10N0040:08; C10N0040:12; C10N0040:20; C10N0040:25; C10N0040:30; C10N0070:00
IPC ORIGINAL:	C10M0159-00 [I,C]; C10M0159-12 [I,A]; C10M0171-00 [I,C]; C10M0171-06 [I,A]; C10M0177-00 [I,A]; C10M0177-00 [I,C]; C10N0010-12 [N,A]; C10N0030-06 [N,A]; C10M0125-00 [I,C]; C10M0125-22 [I,A]; C10M0129-00 [I,C]; C10M0129-30 [I,A]; C10M0129-38 [I,A]; C10M0133-00 [I,C]; C10M0133-06 [I,A]; C10M0133-16 [I,A]; C10M0133-56 [I,A]; C10M0135-00 [I,C]; C10M0135-18 [I,A]; C10M0135-22 [I,A]; C10M0159-00 [I,C]; C10M0159-18 [I,A];

IPC RECLASSIF.:	C07F0011-00 [I,A]; C07F0011-00 [I,C]; C10M0101-00 [I,C]; C10M0101-02 [I,A]; C10M0105-00 [I,C] ; C10M0105-36 [I,A]; C10M0105-38 [I,A]; C10M0125-00 [I,C]; C10M0125-22 [I,A]; C10M0135-00 [I,C]; C10M0135-18 [I,A]; C10M0137-00 [I,C]; C10M0137-10 [I,A]; C10M0159-00 [I,C]; C10M0159-12 [I,A]; C10M0159-18 [I,A]; C10M0169-00 [I,C]; C10M0169-04 [I,A]; C10M0171-00 [I,C]; C10M0171-06 [I,A]; C10N0010-12 [N,A]; C10N0020-06 [N,A]; C10N0030-06 [N,A]; C10N0030-10 [N,A]; C10N0040-04 [N,A]; C10N0040-08 [N,A]; C10N0040-12 [N,A]; C10N0040-20 [N,A]; C10N0040-25 [N,A]; C10N0040-30 [N,A]; C10N0070-00 [N,A]
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ECLA: C07F0011-00B; C10M0125-22; C10M0135-18; C10M0137-10;

ICO: C10M0159-12; C10M0159-18; C10M0171-06
M10M0201:065; M10M0201:066; M10M0201:084;
M10M0207:10; M10M0215:04; M10M0215:08; M10M0215:082;
M10M0215:086; M10M0215:12; M10M0215:122;
M10M0219:062; M10M0219:066; M10M0219:068;
M10M0219:083; M10M0223:045; M10M0227:00; M10N0230:12;
M10N0240:10

USCLASS NCLM: 508/230.000
NCLS: 508/362.000; 508/363.000; 508/381.000

JAP. PATENT CLASSIF.:

MAIN/SEC.:	C10M0101-02; C10M0105-36; C10M0105-38; C10M0159-18; C10M0169-04
MAIN:	C10M0159-18
SECONDARY:	C10M0125-22; C10M0129-30; C10M0129-38; C10M0133-06; C10M0133-16; C10M0133-56; C10M0135-18; C10M0135-22
INDEX:	C10N0010:12; C10N0020:06 Z; C10N0030:06; C10N0030:10; C10N0040:04; C10N0040:08; C10N0040:12; C10N0040:20; C10N0040:20 Z; C10N0040:25; C10N0040:30; C10N0070:00

FTERM CLASSIF.:

4H104; 4H104/AA13.R; 4H104/AA18.C; 4H104/AA19.R;
4H104/AA20.R; 4H104/BA02.A; 4H104/BA04.A;
4H104/BA07.A; 4H104/BB08.A; 4H104/BB14.R;
4H104/BB15.C; 4H104/BB33.A; 4H104/BB34.A;
4H104/BC06.C; 4H104/BE02.C; 4H104/BE02.R;

4H104/BE03.C; 4H104/BE11.C; 4H104/BE11.R;
 4H104/BF03.C; 4H104/BG10.C; 4H104/BG10.R;
 4H104/BG12.C; 4H104/CD01.A; 4H104/CJ02.A;
 4H104/DA02.A; 4H104/DB04.C; 4H104/DB04.Z;
 4H104/EA08.C; 4H104/EA17.B; 4H104/EB02; 4H104/EB08;
 4H104/EB09; 4H104/FA06; 4H104/JA01; 4H104/LA03;
 4H104/LA05; 4H104/PA02; 4H104/PA03; 4H104/PA05;
 4H104/PA07; 4H104/PA20; 4H104/PA21; 4H104/PA41

BASIC ABSTRACT:

WO 2001094504 A2 UPAB: 20091120

NOVELTY - A lubricant composition comprises a lubricant and molybdenum-containing compound(s) in the form of surface-capped nanosized particles.

DETAILED DESCRIPTION - A lubricant composition comprises a lubricant and molybdenum-containing compound(s) in the form of surface-capped nanosized particles of formula (I).

$(Z)n(X-R)m$ (I)

Z = inorganic particles of size 1-100 nm comprising molybdenum and sulfur;

X-R = a surface-capping agent;

X = a functional group capable of specific sorption and/or chemical interaction with the Mo/S particles;

R = 4-20C alkyl or alkylated cycloalkyl;

m, n = numbers such that m:n = 1:1 to 10:1.

An INDEPENDENT CLAIM is also included for the preparation of (I).

USE - The organo molybdenum derivatives are used as multifunctional friction modifier, antiwear, extreme pressure and antioxidant additives in lubricants e.g. in car engine oils.

ADVANTAGE - The nanosized particles have improved solubility and stability in hydrocarbons (or similar solvents). Coagulation is prevented.

TECHNOLOGY FOCUS:

INORGANIC CHEMISTRY - Preferred Inorganic Particles: The Z particles are MoS₃, MoS₂₀, Na₂MoS₄, Na₂MoS₃₀, (NH₄)₂MoS₄, (NH₄)₂MoS₃₀ or their hydrates.

ORGANIC CHEMISTRY - Preferred Surface-Capping Agent: The X-R groups are mono-, di- or trialkylamines, (di)carboxylic acids or their amides, alicyclic imides, ammonium or alkali metal dialkyldithiocarbamates, di(or tri)valent metal bis(or tris) dialkyldithiocarbamates, tetraalkyl thiuram disulfides or their derivatives.

Preferred Amines: The amines are of formula (II)

R₁R₂R₃N (II)

R₁, R₂, R₃ = H, 1-20C alkyl, 6-16C alkylaryl or aryl.

Preferred Acids/Amides: The acids or amides are of formula (III).

R₄C(=O)X (III)

X = OH, NH₂, NHR₄ or NR₄R₄; and

R₄ = 1-40C alkyl (optionally partially unsaturated).

Preferred Alicyclic Imide: The alicyclic imide is of formula (IV).

R₅ = H, C(=O)NHR₇ or alkylene amine;

R₆ = H or 2-400C alkyl; and

R₇ = H or 1-20C alkyl.

Preferred Dialkyldithiocarbamates: The ammonium or alkali metal dialkyldithiocarbamate is of formula (V).

R₈, R₉ = 1-24C alkyl; and

M = Na, K or NH₄.

The divalent metal bis-dialkyldithiocarbamate is of formula (VI).

M = Fe, Zn, Pb or Cu.

The trivalent metal tris-dialkyldithiocarbamate is of formula

(VII).

M = Sb or Bi.

Preferred Thiuram Disulfide: The tetraalkyl thiuram disulfide is of formula (VIII).

Preferred Composition: The lubricant composition contains 0.2-5 weight% of the Mo compound. It may also contain dispersants, detergents, rust inhibitors, antioxidants, metal deactivators, anti-wear agents, antifoamants, friction modifiers, seal swelling agents, demulsifiers, VI improvers and pour point depressants.

Preparation (claimed): (I) are prepared by:

(A) creating a reversed microemulsion comprising a hydrocarbon-soluble surfactant solution in an organic solvent or solvent mixture and an aqueous solution of a water-soluble Mo(IV) compound;

(B) if necessary, converting the Mo(IV) compound into a thio-derivative by reaction with H₂S;

(C) adding a surfactant that chemically interacts with and/or absorbs on the Mo/S moiety;

(D) removing water and organic solvent(s) from the microemulsion and extracting the Mo/S-containing products in the form of surface-capped nanosize particles, using a suitable organic solvent; and

(E) removing this solvent.

Preferred Preparation: The surfactant is cationic, anionic or nonionic. It is preferably a tetraalkylammonium halide, especially a cetyltrimethylammonium halide dissolved in chloroform:n-alkane (1:1 v/v) in concentration 0.01-0.1 mol/L (the alkane is preferably pentane, hexane, heptane, octane or their isomers or mixtures). The surfactant may be added in step (A) or (B). The aqueous Mo solution has pH at most 8.

EXTENSION ABSTRACT:

EXAMPLE - Cetyltrimethylammonium bromide (CTAB) (0.652 g) was dissolved in chloroform (45 ml) and 100 microliters of a saturated aqueous solution of (NH₄)₆Mo₇O₂₄.2H₂O were added with stirring. The opaque solution was heated and then isoctane (20 ml) and chloroform (20 ml) were added followed by 10 drops of concentrated aqueous HCl. Excess H₂S was bubbled in until a pale yellow solution was obtained. 11 ml of a solution obtained by dissolving isopropyl octadecylamine (0.577 g) in chloroform (50 ml) (Mo:N = 1.5) were added. Three days later, all solvents were evaporated and the residue was stirred with tetrahydrofuran (30 ml), undissolved CTAB containing some MoS₃ was filtered off, and the resulting dark clear solution was evaporated.

FILE SEGMENT:

MANUAL CODE: CPI
 E05-G09A; E07-D03; E10-A04A; E10-A12A2;
 E10-B04D; E10-C02D2; E10-C04E; E10-D03A; E10-D03C;
 E32-A04; E35-Q; H07-A; H07-G08

L111 ANSWER 9 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

ACCESSION NUMBER: 2001-017243 [03] WPIX

DOC. NO. CPI: C2001-004950 [03]

TITLE: Hydraulic fluid, especially motor vehicle brake fluid, contains one or more cyclic esters or amides of carboxylic acids
 , e.g. N-methyl-pyrrolidone

DERWENT CLASS: A97; E13; H08

INVENTOR: AYDIN B; FIDORRA U; HOEHN A; MESZAROS L; NOUWEN J;
 OPPENLAENDER K; ROIDA M; STOESSER M; WENDEROTH B;
 HOHN A; OPPENLANDER K; STOSSE M

PATENT ASSIGNEE: (BADI-C) BASF AG

December 11, 2009

10/586,631

162

COUNTRY COUNT: 24

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19918199	A1	20001026	(200103)*	DE	4[0]	
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WO 2000065001	A1	20001102	(200103)	DE		
	<--					
EP 1171552	A1	20020116	(200207)	DE		
	<--					
KR 2002010606	A	20020204	(200254)	KO		
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JP 2002543238	W	20021217	(200312)	JA	16	
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EP 1171552	B1	20030618	(200341)	DE		
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DE 50002594	G	20030724	(200353)	DE		
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ES 2202113	T3	20040401	(200425)	ES		
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US 6783693	B1	20040831	(200457)	EN		
	<--					
KR 660953	B1	20061226	(200765)	KO		
CA 2367913	C	20080108	(200807)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19918199 A1		DE 1999-19918199	
19990422			
DE 50002594 G		DE 2000-502594	20000411
EP 1171552 A1		EP 2000-922626	20000411
EP 1171552 B1		EP 2000-922626	20000411
DE 50002594 G		EP 2000-922626	20000411
ES 2202113 T3		EP 2000-922626	20000411
JP 2002543238 W		JP 2000-614340	20000411
WO 2000065001 A1		WO 2000-EP3230	20000411
EP 1171552 A1		WO 2000-EP3230	20000411
JP 2002543238 W		WO 2000-EP3230	20000411
EP 1171552 B1		WO 2000-EP3230	20000411
DE 50002594 G		WO 2000-EP3230	20000411
US 6783693 B1		WO 2000-EP3230	20000411
KR 660953 B1		WO 2000-EP3230	20000411
KR 2002010606 A		KR 2001-713231	20011017
KR 660953 B1		KR 2001-713231	20011017
US 6783693 B1		US 2001-959160	20011018
CA 2367913 C		CA 2000-2367913	20000411
CA 2367913 C		WO 2000-EP3230	20000411

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 50002594	G	Based on
ES 2202113	T3	Based on
KR 660953	B1	Previous Publ
EP 1171552	A1	Based on
		WO 2000065001
		A
		A
		A

JP 2002543238	W	Based on	WO 2000065001	A
EP 1171552	B1	Based on	WO 2000065001	A
DE 50002594	G	Based on	WO 2000065001	A
US 6783693	B1	Based on	WO 2000065001	A
KR 660953	B1	Based on	WO 2000065001	A
CA 2367913	C	Based on	WO 2000065001	A

PRIORITY APPLN. INFO: DE 1999-19918199 19990422

INT. PATENT CLASSIF.:

MAIN: C10M0129-24; C10M0133-38
 INDEX: C10N0030:02; C10N0030:08; C10N0030:10; C10N0030:12;
 C10N0040:08

IPC ORIGINAL: C10M0129-00 [I,C]; C10M0129-00
 [I,C]; C10M0129-24 [I,A];
 C10M0133-38 [I,A]

IPC RECLASSIF.: C10M0105-00 [I,C]; C10M0105-34
 [I,A]; C10M0105-70 [I,A];
 C10M0129-00 [I,C]; C10M0129-20
 [I,A]; C10M0129-20 [I,A];
 C10N00129-70 [I,A]; C10M0133-00
 [I,C]; C10M0133-00 [I,C];
 C10M0133-38 [I,A]; C10M0133-44
 [I,A]; C10M0133-44 [I,A]; C10M0169-00 [I,C]
 ; C10M0169-00 [I,C]; C10M0169-04 [I,A]; C10M0169-04
 [I,A]; C10N0030-02 [N,A]; C10N0030-08 [N,A];
 C10N0030-10 [N,A]; C10N0030-12 [N,A]; C10N0040-08
 [N,A]

ECLA: C10M0129-20; C10M0133-38; C10M0133-44; C10M0169-04F

ICO: M10M0207:024; M10M0207:044; M10M0209:103;
 M10M0209:103B; M10M0209:104; M10M0209:104B;
 M10M0209:105; M10M0209:105B; M10M0209:106;
 M10M0209:106B; M10M0209:107; M10M0209:107B;
 M10M0209:108B; M10M0209:109B; M10M0215:042;
 M10M0215:202; M10M0215:22; M10M0215:221;
 M10M0215:223+2; M10M0215:225; M10M0215:226;
 M10M0215:30; M10M0227:061; M10M0229:00B; M10M0290:04;
 M10N024:08

USCLASS NCLM: 252/077.000

NCLS: 252/071.000; 252/078.100

JAP. PATENT CLASSIF.:

MAIN/SEC.: C10M0105-34; C10M0105-70; C10M0129-70; C10M0133-38;
 C10M0133-44

INDEX: C10N0030:02; C10N0030:08; C10N0030:10; C10N0030:12;
 C10N0040:08

FTERM CLASSIF.: 4H104; 4H104/BB22.A; 4H104/BB22.C; 4H104/BE26.A;
 4H104/BE26.C; 4H104/BE29.A; 4H104/BE29.C; 4H104/LA01;
 4H104/LA04; 4H104/LA05; 4H104/LA06; 4H104/PA05

BASIC ABSTRACT:

DE 19918199 A1 UPAB: 20050705

NOVELTY - Hydraulic fluids containing 0.01-50 wt% cyclic carboxylic acid derivative(s) in the form of a lactone(s) or lactam(s) with 4-9 atoms in the ring.

DETAILED DESCRIPTION - Hydraulic fluids containing 0.01-50 wt% cyclic carboxylic acid derivative(s) of formula (I).

X = O or NR1;

R1 = H, 1-20C linear or branched alkyl (optionally with up to 9 non-adjacent in-chain oxygen atoms and/or up to 6 hydroxyl group substituents), cycloalkyl or optionally substituted phenyl;

A = -CR2R3-;

R2, R3 = H or 1-8C alkyl (optionally with up to 4 non-adjacent in-chain O atoms and/or up to 3 OH groups); and
n = 2-7.

An INDEPENDENT CLAIM is also included for motor vehicle brake fluid containing 0.01-50 weight% (I).

USE - As hydraulic fluids, especially brake fluids for motor vehicles.

ADVANTAGE - Hydraulic fluids with high equilibrium reflux boiling points (dry and wet) and low viscosities at low temperature (dry or in presence of water), combined with low corrosiveness, good water compatibility, gentle pH, good cold, high-temperature and oxidation stability, good chemical stability, good compatibility with elastomers or rubber and good lubricating properties. TECHNOLOGY FOCUS:

ORGANIC CHEMISTRY - Preferred Composition: Brake fluid as above which also contains 0.1-95 weight% polyglycol ether(s) and/or their borate esters, and/or 0.1-50 weight% polyglycol(s) and/or 0.01-10 weight% corrosion inhibitor(s).

EXTENSION ABSTRACT:

DEFINITIONS - Preferred Definitions: - X = NR1; - R1 = H or 1-6C alkyl (optionally with up to 3 non-adjacent in-chain O atoms and/or up to 2 OH groups); - R2, R3 = H or methyl; and - n = 2, 3 or 4.

EXAMPLE - Brake fluid (BF-1) containing 75 weight% methyltriglycol borate, 22 weight% of a mixture of methyltri-, methyltri- and methyltetra-glycol, less than 3 weight% of a mixture of N,N'-dibutylaminoethanol, 1,1'-iminodipropan-2-ol, toltriazole and 3-nitrobenzaldehyde and less than 0.5 weight% Bisphenol A was modified by replacing 5 weight% of the methyltriglycol with 5 weight% methyl-pyrrolidone-2. The modified fluid showed kinematic viscosities at -40 degreesC of 702 (833) cSt (DOT 5 specification; dry) or 1058 (1223) cSt (DOT 5.1 spec.; in presence of 4% water), a wet equilibrium reflux boiling point (ERBP) of 184 (181) degreesC and a dry ERBP or 269 (269) degreesC. Values in brackets are for unmodified BF-1. Corresponding values for a commercial DOT 5.1 brake fluid were 900 cSt, 1265 cSt, 180 degreesC and 262 degreesC.

FILE SEGMENT: CPI

MANUAL CODE: CPI: A05-H01B; A10-E08; A10-E22; A12-W02; E07-A02; E07-A03C; E07-D01; E07-D03; E07-D05; E07-D06; H08-D05

L111 ANSWER 10 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN

ACCESSION NUMBER: 2000-328928 [28] WPIX

DOC. NO. CPI: C2000-099660 [28]

TITLE: Composition, for reducing wear and/or friction between moving parts, includes organic compound grafted with fluorinated olefin

DERWENT CLASS: A14; A97; E19; H07

INVENTOR: BEATTY R P; MORKEN P A

PATENT ASSIGNEE: (BEAT-I) BEATTY R P; (DUPO-C) DU PONT DE NEMOURS & CO E I; (MORK-I) MORKEN P A

COUNTRY COUNT: 24

PATENT INFORMATION:

PATENT NO	KIND DATE	WEEK	LA	PG	MAIN IPC
WO 2000020539	A1 20000413 (200028)*	EN	24[0]		
<--					
AU 9962810	A 20000426 (200036)	EN			
<--					
BR 9914471	A 20010626 (200140)	PT			
<--					

EP 1117753	A1	20010725 (200143)	EN
<--			
KR 2001099666	A	20011109 (200229)	KO
<--			
US 20020103090	A1	20020801 (200253)	EN
<--			
JP 2002526638	W	20020820 (200258)	JA 34
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US 6642186	B2	20031104 (200374)	EN
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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000020539 A1		WO 1999-US22827	19990930
US 20020103090 A1	Provisional	US 1998-102845P	19981002
US 6642186 B2	Provisional	US 1998-102845P	19981002
US 20020103090 A1	CIP of	US 1999-408829	19990929
US 6642186 B2	CIP of	US 1999-408829	19990929
AU 9962810 A		AU 1999-62810	19990930
BR 9914471 A		BR 1999-14471	19990930
EP 1117753 A1		EP 1999-950077	19990930
BR 9914471 A		WO 1999-US22827	19990930
EP 1117753 A1		WO 1999-US22827	19990930
JP 2002526638 W		WO 1999-US22827	19990930
JP 2002526638 W		JP 2000-574639	19990930
KR 2001099666 A		KR 2001-704199	20010402
US 20020103090 A1		US 2001-41808	20011019
US 6642186 B2		US 2001-41808	20011019

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9962810 A	Based on	WO 2000020539 A
BR 9914471 A	Based on	WO 2000020539 A
EP 1117753 A1	Based on	WO 2000020539 A
JP 2002526638 W	Based on	WO 2000020539 A

PRIORITY APPLN. INFO:	US 1998-102845P	19981002
	US 1999-408829	19990929
	US 2001-41808	20011019

INT. PATENT CLASSIF.:

MAIN: C10M0127-00; C10M0169-04

INDEX: C10N0030:06

IPC RECLASSIF.:	C10M0101-00 [I,C]; C10M0101-02 [I,A];
	C10M0105-00 [I,C]; C10M0105-04
	[I,A]; C10M0107-00 [I,C]; C10M0107-02 [I,A];
	C10M0129-00 [I,C]; C10M0129-06
	[I,A]; C10M0129-16 [I,A];
	C10M0129-26 [I,A]; C10M0129-68
	[I,A]; C10M0131-00 [I,C]; C10M0131-04 [I,A];
	C10M0131-08 [I,A]; C10M0131-10 [I,A]; C10M0131-12
	[I,A]; C10M0133-00 [I,C];
	C10M0133-04 [I,A]; C10M0133-16
	[I,A]; C10M0137-00 [I,C]; C10M0137-04 [I,A];
	C10M0137-10 [I,A]; C10M0137-12 [I,A]; C10M0159-00
	[I,C]; C10M0159-12 [I,A]; C10M0169-00 [I,C];
	C10M0169-04 [I,A]; C10N0030-06 [N,A]

ECLA:

ICO:

USCLASS NCLM:

NCLS:

JAP. PATENT CLASSIF.:

MAIN/SEC.:

FTERM CLASSIF.:

INDEX:

BASIC ABSTRACT:

WO 2000020539 A1 UPAB: 20050411

NOVELTY - Composition includes organic additive containing at least 5 weight% fluorine and a group that can be adsorbed on a metal surface.

DETAILED DESCRIPTION - Composition comprises:

(a) a major portion of lubricant base (I); and

(b) a minor portion of an organic additive (II) grafted with fluorinated olefin.

The additive contains at least one functional group that can be adsorbed on a metal surface and at least 5 weight% fluorine.

An INDEPENDENT CLAIM is also included for an apparatus which comprises:

(i) a metallic first part;

(ii) a second part in contact with the first part and moves with respect to one another; and

(iii) a lubricant containing (I) and (II).

USE - Reduces wear and/or friction between moving parts.

ADVANTAGE - The composition is cost effective and has good lubricant properties.

TECHNOLOGY FOCUS:

ORGANIC CHEMISTRY - Preferred Components: Base (I) is petroleum derived or a synthetic hydrocarbon.

The functional group is carboxylic ester,

carboxylic acid, carboxylic amide

, imide, amine, phosphoric or phosphonic acid derivative, dithiophosphate ester, ether, hydroxyl or carbonate or thio derivative or heterocyclic, preferably carboxylic ester.

The composition has 500 ppm - 3 weight% fluorine.

INORGANIC CHEMISTRY - Preferred Apparatus: The second part of the apparatus is metal which ferrous metals.

EXTENSION ABSTRACT:

SPECIFIC COMPOUNDS - Eight specific olefinic monomers are claimed: tetrafluoroethylene, chlorotrifluoroethylene, hexafluoropropylene, 3,3,4,4,5,5,6,6-nonafluoro- 1-hexene, perfluoro(methyl vinyl ether), vinylidene fluoride, trifluoroethylene and perfluoro(n-propyl vinyl ether).

EXAMPLE - Perfluoromethyl vinyl ether (60 g) was added to cooled Jayflex-DIDA (RTM: diisodecyl adipate) (80 g) and t-butyl peroxide (7 g). The vessel was heated at 140 degrees C for 5 hour. The contents were removed and then heated in vacuo for 1.5 hours at

C10M0131-10; C10M0131-12; C10M0169-04
 M10M0203:10B; M10M0203:102B; M10M0203:104B;
 M10M0203:106B; M10M0203:108B; M10M0211:042;
 M10M0211:044; M10M0211:06; M10M0215:04; M10M0215:08;
 M10M0215:082; M10M0215:26; M10M0215:28; M10M0219:044;
 M10M0223:047; M10M0290:02; M10N0240:40

508/154.000
 508/215.000; 508/438.000; 508/464.000; 508/504.000;
 508/505.000; 508/545.000; 508/551.000; 508/579.000;
 508/588.000

C10M0101-02; C10M0105-04; C10M0107-02; C10M0129-06;
 C10M0129-16; C10M0129-26; C10M0129-68; C10M0131-04;
 C10M0131-08; C10M0133-04; C10M0133-16; C10M0137-04;
 C10M0137-10 Z; C10M0137-12; C10M0159-12; C10M0169-04

C10N0030:06
 4H104; 4H104/BA01.A; 4H104/BA07.A; 4H104/BB03.R;
 4H104/BB08.R; 4H104/BB14.R; 4H104/BB31.R;
 4H104/BD05.C; 4H104/BB02.R; 4H104/BE11.R;
 4H104/BH03.R; 4H104/BH06.R; 4H104/BH11.R;
 4H104/CA01.A; 4H104/DA02.A; 4H104/DB01.C; 4H104/LA03

140 degrees C. 106 g of the cloudy liquid product was obtained. - The wear scar = 0.435 mm and the coefficient of friction = 0.1345. A standard 150 N neutral oil containing no additives had wear scar = 0.851 mm and coefficient of friction = 0.1424.

FILE SEGMENT: CPI
 MANUAL CODE: CPI: A04-E10; A12-W02A; E05-G03D; E05-G09A; E05-G09D; E07-H; E10-A1B2; E10-A24B; E10-B01B; E10-B02B; E10-B03B; E10-B04B; E10-C02; E10-C04; E10-D03; E10-E04; E10-H01; E10-H04A3; E10-H04B2; H07-G04; H07-G07

L111 ANSWER 11 OF 11 WPIX COPYRIGHT 2009 THOMSON REUTERS on STN
 ACCESSION NUMBER: 1998-207358 [18] WPIX
 CROSS REFERENCE: 2002-665313; 2005-520055
 DOC. NO. CPI: C1998-065435 [18]
 TITLE: Antioxidant for use in lubricant compositions - comprises a primary aliphatic hydroxyl linked to an organic backbone which upon oxidation generates in situ a hydroperoxy moiety
 DERWENT CLASS: A95; A97; E13; H06; H07; H08
 INVENTOR: ALDRICH H S; BROIS S J; SCHLOSBERG R H
 PATENT ASSIGNEE: (ESSO-C) EXXON RES & ENG CO
 COUNTRY COUNT: 24

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 9811181	A1	19980319	(199818)*	EN	53[2]	
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AU 9743494	A	19980402	(199833)	EN		
<--						
EP 946689	A1	19991006	(199946)	EN		
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BR 9711779	A	19990824	(200001)	PT		
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CN 1230211	A	19990929	(200003)	ZH		
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MX 9902304	A1	19990801	(200063)	ES		
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JP 2002501552	W	20020115	(200207)	JA	49	
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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9811181 A1		WO 1997-US16332	19970911
AU 9743494 A		AU 1997-43494	19970911
BR 9711779 A		BR 1997-11779	19970911
CN 1230211 A		CN 1997-197896	19970911
EP 946689 A1		EP 1997-941625	19970911
EP 946689 A1		WO 1997-US16332	19970911
BR 9711779 A		WO 1997-US16332	19970911
JP 2002501552 W		WO 1997-US16332	19970911
JP 2002501552 W		JP 1998-513957	19970911
MX 9902304 A1		MX 1999-2304	19990310

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9743494 A	Based on	WO 9811181 A
EP 946689 A1	Based on	WO 9811181 A
BR 9711779 A	Based on	WO 9811181 A
JP 2002501552 W	Based on	WO 9811181 A
PRIORITY APPLN. INFO: US 1996-713420		19960913
	WO 1997-US16332	19970911
INT. PATENT CLASSIF.:		
MAIN:	C09K0015-20; C10M0133-00	
INDEX:	C10N0030:00	
IPC RECLASSIF.:	C07C0233-00 [I,C]; C07C0233-18 [I,A]; C07D0263-00 [I,C]; C07D0263-14 [I,A]; C07D0263-52 [I,A]; C07D0498-00 [I,C]; C07D0498-04 [I,A]; C09K0015-00 [I,C]; C09K0015-20 [I,A]; C09K0015-30 [I,A]; C10M0105-00 [I,C]; C10M0105-32 [I,A]; C10M0129-00 [I,C]; C10M0129-76 [I,A]; C10M0133-00 [I,C]; C10M0133-08 [I,A]; C10M0133-16 [I,A]; C10M0133-48 [I,A]; C10M0159-00 [I,C]; C10M0159-12 [I,A]; C10M0159-18 [I,A]; C10M0169-00 [I,C]; C10M0169-04 [I,A]; C10N0030-00 [N,A]	
ECLA:	C07C0233-18; C07D0263-14; C07D0263-52; C07D0263-52F; C07D0498-04+263C+263C+2; C10M0105-32; C10M0129-76; C10M0133-16; C10M0133-48; C10M0159-12; C10M0159-18; C10M0169-04	
ICO:	M07D0263-14; M07D0263-52F; M07D0498:04; M10M0205:02; M10M0205:02B; M10M0207:28B; M10M0207:281; M10M0207:282; M10M0207:283; M10M0207:283B; M10M0207:286; M10M0207:287; M10M0207:287B; M10M0207:288; M10M0207:288B; M10M0207:289; M10M0207:289B; M10M0207:34B; M10M0215:064; M10M0215:08; M10M0215:082; M10M0215:22; M10M0215:221; M10M0215:225; M10M0215:226; M10M0215:227; M10M0215:28; M10M0215:30; M10M0227:09; M10M0290:02; M10M0290:04; M10N0210:01; M10N0210:03; M10N0210:04; M10N0210:08; M10N0230:08; M10N0240:00; M10N0240:02; M10N0240:08; M10N0240:10; M10N0240:101; M10N0240:104; M10N0240:105; M10N0240:106; M10N0240:121; M10N0240:14; M10N0240:22; M10N0240:30; M10N0240:401; M10N0240:50; M10N0240:52; M10N0240:54; M10N0240:56; M10N0240:58; M10N0240:60; M10N0240:66	
JAP. PATENT CLASSIF.:		
MAIN/SEC.:	C09K0015-20; C09K0015-30; C10M0133-08; C10M0133-16; C10M0133-48	
INDEX:	C10N0030:00	
FTERM CLASSIF.:	4H025; 4H104; 4H104/BA07.A; 4H104/BB04.R; 4H104/BB12.R; 4H104/BB15.R; 4H104/BB31.C; 4H104/BB34.A; 4H104/BB35.C; 4H104/BB41.A; 4H104/BE02.R; 4H104/BE11.C; 4H104/BE21.C; 4H104/BE27.C; 4H104/BE31.C; 4H104/BH03.A; 4H104/BJ01.C; 4H104/BJ07.C; 4H104/CA01.A; 4H104/CB13.A; 4H104/CB14.A; 4H104/CJ02.A; 4H104/DA02.A; 4H104/DB01.C; 4H104/EA22.C; 4H104/EA25.C; 4H104/FA01; 4H104/FA03; 4H104/FA04; 4H104/FA08; 4H104/LA05; 4H104/PA02; 4H104/PA05; 4H104/PA07; 4H104/PA08; 4H104/PA20; 4H104/PA22; 4H104/PA41; 4H104/PA45; 4H104/PA50; 4H104/QA18	

BASIC ABSTRACT:

WO 1998011181 A1 UPAB: 20060114

Antioxidant comprises a primary aliphatic hydroxyl linked to an organic backbone such that upon oxidation, a hydroperoxyl moiety capable of boosting the efficacy of free radical scavengers and hydroperoxide decomposer type antioxidants is generated in situ.

Also claimed is a lubricant is prepared from: (a) at least one basestock selected from mineral oils, highly refined mineral oils, alkylated mineral oils, poly alpha olefins, polyalkylene glycols, phosphate esters, silicone oils, diesters and polyol esters and (b) a lubricant additive package comprises the above antioxidant.

USE - For use in lubricants especially crankcase engine oils, two-cycle engine oils, catapult oils, hydraulic fluids, drilling fluids, turbine oils, greases, compressor oils, gear oils and functional fluids.

ADVANTAGE - Has enhanced antioxidant efficiency which can be boosted in situ, thus reducing the rate at which oxidative degradation can occur.

DOCUMENTATION ABSTRACT:

WO9811181

Antioxidant comprises a primary aliphatic hydroxyl linked to an organic backbone such that upon oxidation, a hydroperoxyl moiety capable of boosting the efficacy of free radical scavengers and hydroperoxide decomposer type antioxidants is generated in situ.

Also claimed is a lubricant is prepared from:

(a) at least one basestock selected from mineral oils, highly refined mineral oils, alkylated mineral oils, poly alpha olefins, polyalkylene glycols, phosphate esters, silicone oils, diesters and polyol esters and

(b) a lubricant additive package comprises the above antioxidant.

USE

For use in lubricants especially crankcase engine oils, two-cycle engine oils, catapult oils, hydraulic fluids, drilling fluids, turbine oils, greases, compressor oils, gear oils and functional fluids.

ADVANTAGE

Has enhanced antioxidant efficiency which can be boosted in situ, thus reducing the rate at which oxidative degradation can occur.

EXAMPLE

A polyalpha olefin basestock containing an antioxidant which is derived from 75% 'PA06' (RTM:1-decene oligomer) and 25% monopentaeurythritol/3,5,5-trimethyl hexanoic acid gave HPDSC (high pressure differential scanning calorimetry) decomposition time of 108.86 minutes. This compared with 10.65 minutes for the basestock alone.

PREFERRED COMPOSITION

The antioxidant is the reaction product of (a) an alcohol $R(OH)_n$, where $R = 2-20C$ aliphatic and $n = 2$ or more and (b) 2-20C carboxylic acid, the antioxidant having a hydroxyl number of 5-180. The antioxidant is derived from reactants such that the reaction product contains an unconverted $-CH_2OH$ moiety, and is preferably derived from the reaction product of tris(hydroxymethyl)aminomethane and formaldehyde, thus producing 1-aza-3,7-dioxa-bicyclo(3.3.0)octyl-5-methanol; or from the reaction product of tris(hydroxymethyl)aminomethane and cyclohexanone, thus producing 2,2-pentamethylene-1,3-oxazolidine-4,4-dimethanol; or from the reaction product of tris(hydroxymethyl)aminomethane and a

carboxylic acid, thus producing amides $R(C=O)NHC(CH2OH)3$; or is derived from the reaction product of tris(hydroxymethyl) aminomethane and carboxylic acid, thus producing substituted oxazolines of general formula (I).

The antioxidant is blended with or grafted onto at least one material selected from mineral oils, polyol esters, polyalpha olefins, fuels, oligomers and polymers. The antioxidant is a metal carboxylic acid complex containing titanium, silicon, aluminium, nickel, iron or copper.

The lubricant is crankcase engine oils, two-cycle engine oils, catapult oils, hydraulic fluids, drilling fluids, turbine oils, greases, compressor oils, gear oils and functional fluids.

FILE SEGMENT:

CPI

MANUAL CODE:

CPI: A12-W02A; E07-E01; H06-D01; H07-G01; H08-D05